THE

MEDICAL EXAMINER.

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NOTICE TO CORRESPONDENTS.

Communications and Books for notice should be addressed to the Editors, care of Messrs. Lindsay & Blakiston.

Letters, &c., connected with the *business affairs* of the Journal should be addressed to the Publishers.

Papers for publication must be received *before* the 16th of the month, or they cannot appear in the forthcoming number.

The following Journals have been received in exchange:
Medical News, February.
New York Medical Gazette, ditto.
" " Times, ditto.
American Medical Monthly, ditto.
New Jersey Medical Reporter, ditto.
Nelson's American Lancet, March.
The American Journal of Science and Arts, January.
Boston Medical and Surgical Journal, (weekly.)
Buffalo Medical Journal, February.
Virginia Stethoscope, January.
Virginia Medical and Surgical Journal, February.
New Hampshire Journal of Medicine, February.
St. Louis Medical and Surgical Journal, January.
Nashville Journal of Medicine and Surgery, February.
Southern Medical and Surgical Journal, ditto.
New Orleans Medical and Surgical Journal, January.
Western Journal of Medicine and Surgery, February.
Western Medico-Chirurgical Journal, January.
Montreal Medical Chronicle, February.
Upper Canada Journal, ditto.
Monthly Journal of Medical Science, (Edinburgh) January.
Journal of Psychological Medicine, (London) ditto.
London Lancet.
London Medical Times and Gazette.
British and Foreign Medico-Chirurgical Review, January.
Braithwaite's Retrospect of Medicine, vol. 28.
Pharmaceutical Journal, (London) January.
Gazette Medicale de Paris, to Nov. 5.
Revue de Therapeutique.

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BOOKS AND PAMPHLETS RECEIVED.

Vidal, (de Cassis) Treatise on Venereal.
Meigs on Diseases of the Uterus.
La Roche on Pneumonia and Malaria.
Pereira's Materia Medica and Therapeutics, 2d vol.
Richardson's Human Anatomy.
Billing's First Principles of Medicine.
Bennett on the Uterus.
Fowne's Chemistry.
Homœopathy—Introductory by Chas. A. Lee, M. D.
Doctors' Commons, an ethic address, by S. W. Butler, M. D.
Professional Letters from Europe. By Paul F. Eve, M. D.
Report of the Pennsylvania Hospital for the Insane for 1853.
First Annual Report of the Surgeons of the New York Ophthalmic Hospital for 1853.

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The foreign correspondents of the Examiner will please direct their Exchanges, Books for review, and other communications, to the care of Trubner & Co., No. 12 Paternoster Row, London, or Mr. H. Bosange, 21 Bis, Quai Voltaire, Paris.

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THE

MEDICAL EXAMINER.

NEW SERIES.—NO. CXI.—MARCH, 1854.

ORIGINAL COMMUNICATIONS.

Calomel in Diseases of Children. Read before the Philadelphia County Medical Society, October 12th, 1853. By SAMUEL JACKSON, M. D., of Northumberland.

Dr. S. Jackson (Northumberland) having been requested to prepare a paper on this subject, which might stimulate to discussion, read the following:—

As a great river has many fountains and confluent streams, so has the subject of which we are called to treat. We have all been exploring these sources, but have all gone some parts of the way in too much haste and with many embarrassments, often enveloped in darkness, sometimes with minds prepossessed by opinions and impeded by tradition or prejudice. Let us then revive our observations and compare our recollections, that our future voyages on these delighting streams of knowledge may be made with greater safety, pleasure and profit.

Your committee desired me to write a few pages that might prove useful in opening the way to this evening's discussions, something that might excite us to a friendly controversy, eliciting each man's private opinions, thus making them common property for the benefit of our patients. Our benevolent profession has many strong alliances to religion; one is, that it may be en-

livened and strengthened by the conflict of opinions, all verging to one final and happy consummation.

The task assigned me is difficult, for on *the uses and abuses of calomel in diseases of children*, a writer would not soon come to his end, so manifold are the controversies on this subject, and so extensive is the employment of this powerful agent. In the *first* place, he would have to consider the various supposed modes of its operation; *secondly*, the indications and intentions in giving it; *thirdly*, under what circumstances it may do harm; *fourthly*, the modes of giving it in particular diseases; *fifthly*, the means of counteracting its excessive operation. How small a part of these various points can be attended to on the present occasion, must be seen by you all.

In diseases of children, it may be fairly said, that it is principally given as a purge, therefore the various modes of giving it may be considered under the head of particular diseases; but calomel stands pre-eminent as the great alterative, by which term is meant—a medicine that somehow relieves the organism of some embarrassments, and fits it again for the just operation of aliment and stimuli. To this mysterious working of this noble medicine, our attention to-night is particularly called.

Certain it is, that mercury promotes all the secretions, particularly that of bile, that it hastens the absorption of many morbific deposits, that it arrests the deadly progress of inflammation, that it is said to disintegrate the fibrin of the blood so far as to prevent the forming of new and deleterious membranes. These are all prominent desiderata, but whether they can be attained with safety in the diseases of children by the continued use of calomel, is a very serious consideration, not to be neglected in the treatment of each case on hand. For it is too well known to us all, that mercury has sometimes an unexpected and fatal tendency to the maxillæ of children. I do not here allude to the *cancrum oris*, nor yet to the *gangrenous erosion of the cheek*, which I named some years ago *gangrænopsis;* these two distinct diseases are never directly caused by this mineral; but that mercury does attack the gums and alveoli of children, causing gangrene, caries, and sloughing, was known half a century ago, though not perhaps sufficiently regarded at the present time. I have seen three cases of this misfortune in my own practice from

the use of calomel. Two children, about seven years old, took this medicine as a purge in remittent fever, and a third child in her fourth year, took it as an anchor to windward in the perils of pneumonia; they all escaped without any external deformity, but each lost two or three molar teeth with their alveoli, after a tedious exfoliation. The fourth case was that of a child about three years old, to whose face I had applied mercurial ointment, in order to prevent the pits of confluent small-pox. All her teeth were loosened, some she picked away in her delirium, the gums mortified, then the cheek, and she soon died of her two-fold disease—an awful sight for the unfortunate physician. She had taken no calomel, hence the disaster must be imputed to the inhalation of vaporized mercury.

Dr. Rush used to caution us against attempting to salivate children under six years old; and, in writing of its producing gangrene in the jaws of children, he says:—"Seven instances of death from that cause, in children between three and eight years old, with circumstances of uncommon distress, have occurred in Philadelphia since the year 1795."* You see then the caution of this great man and heroic practitioner, who has been most unjustly denounced as rash and dauntless in the use of mercury. But to show how timid he was in comparison with some inferior spirits, I will quote a few lines from Professor Beck on *Infant Therapeutics.* "Under various circumstances Dr. Clarke has prescribed mercury in very large quantities, and in a great number of cases, and he never produced salivation, except in three instances, in any child under three years old. Dr. Warren, of Boston, has never known an infant to be salivated, notwithstanding he has given in some cases *large quantities* with this view. Drs. Evanson and Maunsell say, we have never succeeded in salivating a child under three years of age. Dr. Percival repeatedly observed, that very large quantities of ung. cœruleum may be used in infancy and childhood without affecting the gums."

You then see that foolhardy and unjustifiable attempts to salivate children are often made; and you see, too, that never were doctors more fortunate than these, supposing they have told us

* Inqs. and Obs., II., 242.

the whole truth. Mr. President, had I written to you from Northumberland, that I was in the practice of giving mercury to young children in this amount, and with this intention, you would have said, "Oh, he does as he pleases back there, he has no one to watch him, perhaps he knows no better; that backwoods doctor would do well to look into Prof. Beck's little book, p. 45, where he may read thus:—'What shows incontestibly that the action of mercury is actually more energetic on the infant than on the adult, is the fact, that when salivation does take place in the infant, as it sometimes does, its effects are most disastrous. Sloughing of the gums and cheeks, general prostration and death, are by no means uncommon occurrences. On this subject Dr. Blackall justly remarks—a general opinion prevails that the constitutions of young subjects resist mercury. Its entrance into the system they do resist more than we could expect, but they are greatly overcome by salivations; and the possible occurrence of such accidents may well set us on our guard. Dr. Ryan, too, says that ptyalism of infants is often followed by sloughing of the gums and cheeks, and this I have known to occur after the use of it in hydrocephalus.'" I was not wrong then in calling those doctors *fortunate*, using this word in the hope that they concealed nothing—in the hope that if any of these children suffered gangrene of the jaws and face, they would have told us so.

The recollection of such cases must forever deter us from giving calomel to children, for many successive days, as a deobstruent and alterative; hence we suffer great loss in the treatment of many diseases, as pneumonia, obstructions of the liver and spleen, encephalous inflammation, dysentery, and fevers with cerebral oppression. In treating an adult, we detect in good time the mercurial breath, but in children, the gums are swelled and the teeth are loosened, before we have reason to suspect the latent and now irresistible evil. Moreover, the adult jaws can bear more inflammation than those of children, and the patients themselves are more tractable.

Notwithstanding my timidity and the causes thereof, which I have freely expressed above, calomel is a favorite medicine with me. I have given it freely in the diseases of children, and I recollect no unpleasant effects therefrom during the last thirty years, those three cases of maxillary disease having occurred be-

fore this period; nor can I recollect having salivated any person the last thirty-four years to such a degree, that he could not have chewed his beef without flinching or pain. Yet in conversation and practice with my brethren, I find that too many of them consider me as rather incautious in the use of calomel. It must be confessed that I have often given it with fear and trembling, nor has my fortunate escape for so many years had any effect in fortifying me against the maxillary panic.

Whoever gives calomel to children every day, ought to be convinced that he has imperative reasons therefor; he must beware of cold air and water;* he ought to examine the breath and gums two or three times every day; and he must warn the mother of what he is doing. Let him also consider the various states of the system that favor or oppose the operation of mercury on the maxillæ. "If we suppose," says Dr. Armstrong, "that the action of medicine is the same in disease as in health, we shall often be greatly mistaken, and particularly in respect to calomel; a few grains of this medicine will usually affect the mouth in health, whereas in fevers attended with a hot and dry skin, we may give full and repeated doses without any such result." 'Tis true that when the system is occupied by any considerable fever, the mercury is not very apt to bring the jaws under its influence, but this preventive fever is often soon reduced, and the body is now open to the action of the accumulated doses of calomel. This would be very apt to happen in pneumonia, the inflammation having been brought low by the appropriate bleeding, starving, and antimony. In dysentery, where small and frequent doses are often greatly needed for some days, one might hope that the intestinal irritation and flux would divert the mercurial action from the jaws, but I have known several instances, though not in my own practice, wherein the maxillæ were seriously injured by calomel in this disease. It is in a state of debility with continual fever, that gangrænopsis is most likely to happen, and to be most intractable. This predisposing state is found in dysentery, in typhus and in remittent fevers, all which may preclude

* In the debate that followed, one gentleman of great authority in medicine, expressed surprise that I should have considered cold as conducing to sore jaws. There is generally some reason for old prejudices, and they oughtnot to be hastily despised.

for some days the salutary operation of bark, quinine, and animal food. In this low state with continual fever, a very slight irritation may dispose the cheek to gangrene; I have seen it evidently brought on, in two cases of this state of weakness and fever, by the pressure of the molar teeth, the patients having laid continually on the same side, with a hand between the cheek and the pillow. Now, there is reason to fear that calomel affecting the jaws, may irritate the cheek, and thus prove the indirect cause of gangrænopsis. This did undoubtedly happen in the child whom I mentioned as affected by vaporised mercury.

Much has been written on the appropriate doses of calomel, and wonderful, indeed, is the discrepancy of the brethren on this subject. The advocates of minute doses argue, that they are as great as the system can profitably digest. In the mode of Dr. Ayre, they would give one-eighth of a grain to an adult, when others would give from one to ten grains. This equality of small to large doses, it must be observed, has no verging towards the homœopathic folly, but it has never been proved, hence it affords a laudable subject for discussion. It is certain, however, that many cases and some idiosyncrasies, abhor large doses of this medicine, and are yet benefitted by such small ones as forty years ago would have been held in contempt. But physicians since the time of Dr. Rush, have so thoroughly learned to think, each one for himself, that every one possessed of a philosophic spirit will fancy, that he sometimes sees indications for small doses, sometimes for large, and in his attention to this subject he will often find cause for self-gratulation. The patient is recovered by nature or by art, and the physician cannot be blamed if he attribute the cure to his own perspicacity. This is a part of our subject that claims the particular attention of every practitioner. The doses of medicines to purge, to puke, or to arrest an intermittent fever, are pretty well ascertained, but the most profitable doses of mercurial alteratives, are not easily settled to general satisfaction.

We are greatly indebted on this subject to physicians of the British army. If any one condemn their practice, he must yet acknowledge, that they have given him much on which he is bound to reflect and experiment. If the European constitution, when melted down by the burning suns and the scalding vapors

of the torrid zone, can yet bear scruple doses of calomel, repeated from two to four times in twenty-four hours, and be plainly benefitted thereby, we ought to think at least twice before we speak once against their extraordinary practice. Let us bear in mind, that these are men who deserve well of the whole profession, they have done all they could and are *not* "unprofitable servants;" that while many physicians who have spent long lives in great cities—even some lauded professors—have done nothing for the science, these roving men beset continually by every impediment to study, have furnished us with important facts and principles, have left works that must transmit their names to the love and to the gratitude of distant posterity.

With respect to large doses of calomel, Dr. Cartwright has some peculiar thoughts which I am led to mention, because they are buried in the pages of an obsolete periodical—the Medical Recorder, vol. viii. He supposes that these doses are safe and supremely beneficial, because they act at once upon all the secretions of the body, disposing it to resume the functions of health; whereas small doses often repeated, act merely on the liver. He gave twenty grain doses in dysentery, frequently repeated, and found them, as did the physicians of the British army, not only salutary but absolutely antiemetic and anodyne. He contends that even syphilis is arrested by these, more certainly and quickly than by the small, frequent doses. He says, "experience teaches us, that this decisive method of introducing it, so far from producing mercurial irritation or fever, on which the evils of a mercurial course depend, produces a directly opposite state of the system, by establishing a gentle yet general and permanent secretory action throughout the body."

Dr. Thomas Bond called calomel more than a hundred years ago, "the great revolutionary medicine." Now if a revolution can be wrought, as Cartwright contends, by a few large doses, every one must find himself under a moral obligation to investigate this subject. They are safer with respect to the maxillæ of children than the small and frequent doses, as they appear to work themselves off by all the secretions at once, and thus do all that is expected of mercury.

Amidst the perils and panics of giving calomel, it would be a great relief to find some means of counteracting its possible and

much dreaded superaction. Iodine was strongly recommended in Hufeland's Journal, 25 years ago, for the sudden cure of exorbitant salivation; whether it has been further proven, I have not heard. But in No. 21 of the Med. Chir. Review, is a most interesting paper translated from Mon. Melsens, in which this experimenter appears to have proven, that iodide of potassium seizes upon mercury lodged in the living fibre, whether pure or in any possible combination, and carries it suddenly away by the kidneys. But alas, there is no safety even in this, for the poor jaws: the triple compound thus formed, though quickly carried away, has yet time to bring on a profuse salivation, hence it is more dangerous than the metal it was given to expel.

I will now say a few words on the diseases wherein calomel is preeminently beneficial. Among these are considered all the idiopathic fevers, or the cases of them wherein there is a want of bile, or there may be an oppression of the brain present or threatened. The remittent miasmatic fever of children, and the scarlatina, often come on with convulsions, and here a powerful dose of calomel, as soon as the excitement is broken down, must not be omitted. The brain must be thoroughly relieved of its obstruction, lest the convulsions return with the diurnal exacerbation, and there is no medicine that disembarrasses the brain as does calomel in large doses. In scarlatina, even of the mildest grade, I would give two or three calomel purges, for this reason:—these mild cases are as apt as the severe, to be followed by dropsy, suppuration of the ears, paracusis, and glandular swellings continuing a long time, all which may be prevented by low diet, purging, and minute doses of antimony. I am always sorry to find any writer maintaining, as the present fashion is, that "the less we do in such mild cases the better;" I would not run into the opposite extreme, *in contraria*, like Horace's fool, and say the more we do the better, but I do assert from much experience, that there is great good to be done by an active treatment. A case, moreover, which is now mild in the onset, may become very severe. *Respice finem*, says that cautious yet great practitioner, Dr. Rush, should be our motto in every case; let us then hear what Dr. Armstrong says directly to the present purpose. "When in attendance on a family in which scarlet fever existed, I was requested to look at a boy who had just sickened, for whom

I prescribed a laxative and a mild emetic, as the symptoms were then slight ; but early next morning I received an urgent message, and to my surprise, found him expiring under coma and convulsions." Other examples of a like insidious nature have come under my observations, and they seemed utterly inexplicable, until I had obtained some morbid examinations, and then the manifest mischief of the visceral congestions, &c."

In a case of open and free reaction, though the fever may run high, the eruption be copious, and the throat be inflamed, there is little danger in trusting the cure to bleeding at the arm, an emetic of ipecacuanha, calomel purges, tartar emetic, ice in the fauces—totally dispensing with a *three week's greasing with the blubber of hogs.* But let me repeat that calomel purges are a great help in preventing the distressing sequelæ of the disease. In the congestive cases it cannot be omitted : and in the malignant form of the disease, whether congestive or not, it often finds a place. There is no medicine that so greatly relieves the congested brain as does calomel. " The power, says Dr. Armstrong, which calomel has of equalizing the circulation, is no where more conspicuously displayed than in diseases of a congestive character." And in another place he says, " though the experience of every succeeding year tends more firmly to establish my faith in the efficacy of large doses of calomel in highly congestive diseases, yet having once made the desired impression they ought not to be repeated, such an extraordinary practice being only requisite or justifiable during the urgency of extraordinary cases." You see then how this great medical hero, shows caution as well as vigor.

Of dysentery, I would hardly undertake to cure a single bad case without calomel. Here you often want more bile—calomel brings it : you need something that serves to arrest inflammation —calomel does this : you want something that powerfully promotes all the secretions—calomel is the great secerner : a remedy is needed that acts most searchingly on the mucous membranes —calomel does it : do you desire some purgative that lies harmless in the bowels till they are ready to be operated upon ?— calomel with ipecacuanha and opium, will often answer all your reasonable expectations.

In cholera infantum, we cannot practice without this noble de-

obstruent. Here the greatest danger lies in the state of the brain and this medicine, as I said before, is the great emulgent of this organ. The most blundering physician, I don't mean homœopaths, can stop a vomiting and purging; but these are not the disease, they are merely symptoms of something worse. Every physician knows that the state of the brain is to be intensely regarded. Only look to the excellent paper of our fellow member, Dr. Hallowell, in Hays' Jour. for July, 1847, and see what encephalic devastation he found in those who died in what he calls the 2d and 3d stages; now this pathological state will be aggravated by stopping the vomiting and purging, unless some salutary evacuations be substituted therefor, and one of these is that universal secretion that calomel affords. I called Dr. Hallowell's paper excellent—I might more justly have used the superlative degree; but with the name he gives this malady, I find cause of complaint. "Gastro-follicular enteritis" is not the disease, but merely a portion of its lesions, and these do not exist if the patient die in the violence of the onset. New names do not help on the cure of diseases.*

Never were calomel and mercurial oint. more used and abused than in the meningitis of children, by which I mean an inflammation in one or all of the encephalous membranes; that disease called hydrocephalus, most beautifully described by Whytt and then by Quin; whether tuberculous, is nothing to our present purpose. Here calomel must be used in very large doses, so as to work itself off by all the emunctories, thus changing the condition of the whole system at once, and making a powerful

* A distinguished member found great fault with this criticism, and tried to justify the name. But the lesions of these follicles, which ought to be called *gastro-entero folliculitis*, so far from being peculiar to chol. infant. are often found in dysentery and enteritis. They are not mortal, the cause of death is found in the brain—congestion, inflammation, and effusion. If the disease has not lasted long enough to produce these, the patient has died of mere prostration. I protest against this naming of idiopathic diseases from their ultimate lesions. A few years ago remittent fever was a *gastro-enteritis*—what is it now? The mild typhus was an *arachnitis;* by the *gens d'armes physiologiques*, it was afterwards called "*the first shade of chronic gastro-enteritis;*" now it is getting the name *enteric fever.* Thus the scarlatina might be called *febris tonsillaris*, and the plague would adopt the euphonious name *febris anthraci-bubonigeneta.*

derivation from the head, according to the views of Cartwright. To give it day after day in small doses, would greatly endanger the maxillæ, particularly as ice or the cold *douche* must often be used to the head. Dr. Rush, in treating of this disease, says,—"my reasons for not giving mercury as a sialogue are, the uncertainty of its operation, its frequent inefficacy when it excites a salivation, and above all, its disposition to produce gangrene in the tender jaws of children:" and Dr. Michael Ryan says—"ptyalism of infants is often followed by sloughing of the gums and cheeks, and this I have known to occur after the use of it in hydrocephalus."

I could say much on the use of calomel in other diseases, were it not high time to hear what my fellow members have to say:—but first, hear the eulogy of Dr. Armstrong, which I heartily adopt. "Only let practitioners put calomel fairly and extensively to the test in febrile diseases, and we shall soon cease to have imaginary and unfounded clamors against its free employment; for here it is a medicine which, like an injured and innocent individual, will have its character restored by an impartial and a strict examination."

Treatment of Ulcers of the Leg by Spender's Chalk Ointment and Tight Bandage. By Henry S. Patterson, M. D.

While a resident pupil of our Alms House Hospital, in 1836, I received and read the book (then recently published) of Mr. Spender, of Bath, on Ulcerous Diseases of the Leg. Notwithstanding its great prolixity and wearisome repetitions, (faults due to the writer's attempt to make a book from material about sufficient for a moderate journal article,) I was much interested in the direct common sense of its practical directions. The "sore legs" being regarded as a surgical bore, and left entirely to the care of the *internes*, I resolved to test Mr. S.'s practice. The winter of 1836–7 being very severe, ample opportunity was presented. In the white men's surgical ward and "long garret" we had 125 chronic non-specific ulcers of the leg, besides others among the negroes and women. A majority of these were put under the use of the chalk ointment and tight bandage, the dressing being attended to, as far as possible, by myself and col-

league personally. The result was entirely satisfactory. A subsequent opportunity of observation in the same institution, as well as considerable experience in private practice, has convinced me of the decided superiority of this method over any other in general use. I have therefore thought it would be useful to recall professional attention to a surgical authority who, never attracting much notice, appears now to be undeservedly forgotten.

The treatment recommended by Spender is based on the conviction that the obstinate and unmanageable character of ulcers of the leg arises, in the great majority of cases, from a varicose condition of the veins of the limb. Not only where the larger venous trunks are so dilated as to be conspicuous at first sight, but also in instances where inspection is required to perceive the lesion, does he regard the varix as the source of all difficulty. In many cases, an œdematous condition of the limb, or adventitious deposites of a more solid character, may mask entirely the enlargement of vessels. In other cases, minute examination and especially the touch will reveal an enlarged and nodulous condition of many of the smaller superficial veins, although the main trunks are not yet varicose. The consequence will be an impeded and imperfect circulation, and impaired vitality of the tissues of the limb. Hence come the liability to ulceration and the difficulty of healing an ulcer, when once formed. Mr. Spender found this state of things in about 80 per cent. of the sore legs coming under his care. I am inclined to consider this estimate short of the truth. I have never seen an ulcer of the leg (non-specific) of long standing, unaccompanied by a varicose condition of the adjacent veins. Obviously, the first step in the treatment of such ulcer, is to remedy this primary morbid condition.

All surgeons recognize the "varicose ulcer" as a species. The peculiarity of Mr. S. consists in asserting its frequency. The necessity of correcting the diseased condition of the vessels, when existing, is perceived by all. Two methods of meeting this indication are proposed. The first, which is that recommended by most writers, consists of rest in the recumbent posture. This is always inconvenient and objectionable, and often impossible. The other plan is to maintain firm and uniform compression of the entire limb from toe to knee. Such is the practice of Mr. S., and he carries it out by the tight bandage. The adhesive strips

as recommended by Mr. Baynton, and so generally used, cannot accomplish this purpose. They do good by local compression of the surface of the sore, and by approximating the edges, so as to obtain a smaller surface of cicatrix, but they do not act like the roller. Another advantage of the latter is, that the patient may not only move about with it on, but will be actually benefitted by the exercise. Mr. S. was in the habit of directing his patients to take even more than the ordinary exercise. The tissues, moreover, that are thus formed, are much more likely to be permanent than parts repaired in bed with the limb elevated. It is, unfortunately, too common for legs, healed by rest, to begin to slough and erode as soon as the patient returns to his ordinary avocations.

Mr. S. next endeavors to ascertain what is the natural process of cure in an ulcer, with a view to imitate that process as closely as possible. He finds it to consist in an incrustation or scabbing, first of the edges and then of the whole sore, and the formation of a cicatrix under the protection of this crust. But upon this subject, and upon the abuse of local applications, we must let him speak for himself.

"If a beast in the field stakes itself, the blood pours out, and some of it coagulating, forms a crust on the wounded part. If the injury is not very extensive, this covering may probably be sufficient to protect it from all external influence, and to allow the formation of a healthy skin underneath, when the cure will be very speedily and effectually performed. Even the union by the first intention, as it is called, seems in some degree to be indebted to the presence of the blood acting on this principle. At other times, when the accident is more severe, suppuration takes place, and a purulent secretion is thrown out, which, in a short period, becomes dry, forming a scab first on the margin and then on the surface of the sore. This shields the part from all outward injury, and thus covered and protected, a new skin is formed, and the crust drops off. If by any means the scab be removed before the cure is completed, another quantity of fluid is supplied, which hardens in the same manner as the former, but then all the intermediate time is lost. Although, from our habits of interference, we do not possess the same opportunities of seeing the natural process of cure in the human subject, yet it may be occasionally observed. Besides the manner in which most slight scratches and cuts are spontaneously healed, in what is commonly termed "breaking out" on the lips, every one knows that if the scab be picked off too soon, the sore becomes exposed, another scab is formed, and it is only by letting it alone that the part underneath will heal. Now if we compare this beautiful, simple, and effective process with the method of treating wounds and ulcers on the human subject by

poultices and fomentations, vapors and lotions, together with spungings, washings, and wipings, how striking the difference appears; and it is really wonderful that we can continue to go on pursuing a plan which so violates these first lessons of nature. We must become more humble as well as more observant, and be contented to abandon our complicated and cumbersome remedies, which by losing their simplicity, not uncommonly lose their effect, before we can hope to make much advancement in the treatment of diseases. Nature is to be conquered only by submitting to her; and he conquers the most easily who submits the most readily." Pages 62 and 63.

"This application, (the poultice) in most instances, acts prejudicially, likewise, by the effects which it produces on the shape and character of the sore. It makes the granulations soft, pale, and flabby; and converts the margins into spongy, insensible edges, giving them a sharp and abrupt termination, the most unfavorable conditions imaginable for healing. It also absorbs the purulent fluid which is formed on its surface, preparatory to the act of reparation. It has been clearly proved, that an ulcerated part, deprived of its matter, unless covered and protected by a scab, is arrested in its progress of healing, and does not proceed until the fluid is reproduced. It is true that if one supply of the pus is taken away, another is thrown out, but then the intermediate space is lost. Besides, the renewal of the poultice is each time a repetition of the evil, as every successive one tends to absorb the matter that is present, and the surface becomes continually deprived of its fluid almost as fast as it is formed. Thus, then, both the unhealthiness of the parts below, and the nature of the sore above, require the very opposite treatment to poulticing, and it is really difficult to assign any other cause for the frequent and indiscriminate use of such a remedy, than the disinclination to do anything which will soil the fingers or offend the nose. We can order a poultice, and even prescribe a fomentation or a lotion, and yet stand at a very agreeable distance—shifting off on other hands the local treatment of the disease, instead of executing it by our own. It is, however, very clear, that if the performance of what ought to be done strikes us with disgust, though it may be allowable to dislike it, yet if the aversion prevents us from doing our duty, we are inexcusable for pretending to undertake the management of the case at all." p. 93.

Our author cannot say too much in condemnation of the poultice in these cases. It is astonishing how constantly patients apply to one even yet with their legs enveloped in that irritating abomination, a sour bread-and-milk poultice. By surgeons they are much less used than formerly, but still far too frequently. To ulcers of the leg they should never be applied, except to cleanse them when sloughing. The only poultice I have used for years is the simple paste of ground flaxseed, or "cake-meal," and boiling water. To this may be added a little Liq. Sodæ Chlorin., to overcome fœtor, or powdered charcoal, or yeast, as a corrective to the sore. With

regard to the preparation of the edge in very old sores, I do not think that Mr. S. is sufficiently explicit. Mere compression will not answer in very many cases. In some cases there is a mass of unseparated cuticular deposit which, after softening by a poultice, may be gently separated by the handle of the scalpel. But in others the cutis itself is thickened, callous, and semi-cartilaginous, often inverted and the ulcer burrowing beneath. The only remedy is its removal, without which cicatrization will not commence. This may be affected by the caustic alkali or the knife. Nitrate of silver will not answer, often making no impression whatever on the indurated mass. The scalpel, however, is always preferable, and should be used freely so as to secure a new and healthy edge. This done, the next thing is to procure incrustation, which Mr. S. proposes to effect by his chalk ointment, the main peculiarity of his practice. His object in this ointment is to have a bland, unirritating, impalpable powder, held together by the smallest quantity of unctuous matter that will permit its being spread and otherwise managed. He employs prepared chalk and fresh lard, in the proportion of three or even four parts of the former to one of the latter. The formula which he prefers, and which I have generally adopted, is as follows :—

Take of Prepared Chalk,	4 lbs.
Fresh Lard,	1 lb.
Olive Oil,	3 oz.

To the lard and oil, melted together, the chalk should be added gradually, being first rubbed to a fine powder and passed through a sieve. The mass should then be stirred until nearly cold. It may be rendered still smoother by subsequent rubbing in a marble or wedgewood mortar, but this will scarcely be required. It is impossible to prepare the ointment properly by mere trituration without the aid of heat, as I have seen apothecaries attempt. Under all circumstances there will be a slight degree of grittiness, due to the chalk, but not enough to constitute a practical objection. In private practice, however, I have used an ointment prepared with the precipitated carbonate of lime, which is perfectly smooth. The comparative costliness of this substance would be an objection to its adoption in hospital practice, or where, from the size of the sore or the frequency of dressing, the quantity used is very great.

The ointment is spread, about the thickness of a wafer, upon linen or cotton cloth, and applied over the whole sore, extending some distance beyond its margin. The next step is to apply a tight bandage from the toe to the knee. Mr. S. recommends a roller of calico (muslin) or flannel, two inches wide and six or eight yards long. The flannel he employs only in old and feeble subjects, or where there is much œdema of the limb. The bandage should be applied firmly and smoothly *by the surgeon himself.* No man can possibly apply a bandage properly to his own limb, and very few nurses, even in Hospitals, will be found competent to this duty. As the success of the treatment depends very much upon the manner in which the bandage is applied, the only safe plan is for the surgeon to attend to it himself. It should be made to embrace the limb closely, and may be drawn as tight as possible. Occasional reverse turns or folds will be necessary, and it should be fastened firmly with two or three circular turns below the knee. Properly applied it will remain for days and even a week or more. The longer the sore is left undisturbed the better. It should not be opened unless there is pain or fœtor, or the discharge is sufficient to soil the dressing offensively. At first, the rapid reduction in the size of the limb, from the absorption of serous effusion and even of more solid adventitious deposit, will cause the bandages to slacken and require their more frequent renewal. In many cases, however, I have changed the dressing only once in a week or ten days, and with the best results. The laced stocking I have used in a few cases, as a substitute for the bandage, but it did not answer my purpose. The patient complained much more of inconvenience, and there was a want of uniform compression about the ankle, where it is particularly needed. The elastic stocking of vulcanized caoutchouc, or *bas contre les varices*, made by Vié, of Paris, and now on sale here, I have employed in several instances with the most satisfactory results. It answers admirably as a preventive of ulcer in varicose limbs, or as a protection after the sore is healed, but it cannot become a substitute for the bandage in the treatment of the sore.

When this dressing is removed the surface will be found almost universally improved, clean and free from offensive odor. The discharge would seem to be in a great measure absorbed, and its acri-

mony neutralized by the chalk. At the same time it will be perceived that a thin layer of chalk has been deposited on the edges of the sore, and sometimes also in patches in the middle. *This must not be disturbed on any account*, as beneath it is forming the tender new cicatrix. Neither must the limb be wiped or washed. If wet with discharge, it may be dried by a soft cloth gently pressed upon it. A new dressing of the ointment should be then laid upon it, and the bandage reapplied as quickly as possible. With each removal of the dressing the crust will be seen to have encroached still farther upon the surface, until it is finally covered. If found to crack and become irregular, its separation may be assisted gently. The applications (especially the bandage) should be continued for some time after the ulcer is entirely cicatrized.

This treatment I can from extended experience confidently recommend to my professional brethren. It is applicable to all ulcers of the leg in which a varicose condition of the superficial veins constitutes the element of difficulty and delay in the cure, and these will be found (I am satisfied) to be four-fifths of all the cases that occur. Mr. Spender entirely disregarded the usual distinction of ulcers into the indolent and irritable, treating both alike. Some of the very worst irritable sores I have ever seen have yielded at once to the chalk ointment and compression. A recent case illustrates this point. An elderly gentleman applied to me with a very painful "pimple," as he termed it, which had afflicted his leg then for a couple of weeks, and would not heal. I found the lower third of the limb considerably swollen, and, over the sharp edge of the tibia, a prominence, on the summit of which was a superficial ulcer, about a line in diameter, covered with an orange-yellow sloughy matter, and discharging a transparent yellow ichor, streaked with blood. It was attended with constant and intense burning pain, and the surrounding parts were deep red and tender to the touch. All the mucilaginous poultices, &c. heretofore used, had only appeared to make it worse. Being actively engaged in business, the patient declared rest utterly out of the question. Here was a fair case of commencing irritable ulcer, under unfavorable circumstances. The large venous trunks were not varicose, but the smaller ones were prominent and nodulated to the touch. I applied the chalk ointment and an elastic stocking, and the pain was relieved instantly.

The chalk was continued for two weeks, when the sore was entirely healed and soundly cicatrized, but the stocking was worn for several months.

On the Connexion of Tubercular Matter with Inflammation.

By Samuel Lewis, M. D.

There is no disease, perhaps, that has received more attention from the pathologists of the present century than pulmonary consumption; and yet there are few subjects, which, after having received so much attention, still remain in so unsettled a condition. So true is this, that we have an able reviewer, in the number of the British and Foreign Medico-Chirurgical Review, for January, 1853, declaring that we do not yet know what phthisis is. He asks: "What is tubercle? what is its anatomical constitution? what is the pathological process by which it is formed? How is tubercle to be defined, so that all may signify the same body by the same name? What is phthisis pulmonalis? Do all writers using that term intend by it the same disease, *i. e.* the same anatomically and pathologically? Are many diseases confounded as one under the name phthisis pulmonalis?" "Curious it is," he continues, "that we should have to ask these questions at the present day. Strange that pathologists, renowned for the accuracy of their observations, and for the soundness of their reasoning, whose earnest desire is to see what is, and whose anxious wish is to interpret aright what they see, should give different answers to these questions. Strange that after the labor bestowed on the investigation of these subjects by the most eminent pathologists, from Morton and Bayle to Rokitansky and Lebert, we should have still to ask what is tubercle? what is phthisis?" This passage is not quoted with any intention of entering upon a discussion as to the cause of the discrepancy, but merely for the purpose of showing how much the subject is embarrassed.

It is clear that if we cannot determine the cause and origin of tubercular matter, our treatment of the disease must be vague and unsatisfactory; for it may be fairly stated that the scientific treatment of any disease mainly depends upon a knowledge of its cause and nature, and the consequences (phenomena) pro-

duced by morbid processes, in other words its pathology, without a knowledge of which, "the practice of medicine, as has been well observed by M. Jourdan, is nothing better than a methodic empiricism." And so strongly does Sydenham insist on a knowledge of the causes of disease, and the changes produced thereby, that he has, not without justice, been reproached with vanity for declaring that there was no disease, which if completely made known to him, the resources of his art would not enable him to cure. "But whilst," remarks an eminent author commenting on this passage, "I could almost sanction this preposterous confidence, as a powerful stimulus to the complete investigation of morbid changes, I can see no palliative for the presumption of those who profess to administer the remedy, without even a knowledge of the disease."

With these prefatory remarks, I now proceed to enquire into the proper subject of this paper, namely, the relation that exists between tubercular matter and the process of inflammation.

On the subject of the generation of tubercles, it may be generally affirmed that there are two classes of theorists; by the one, the proposition is maintained that the cause of tubercular matter is indisputably the presence of inflammation more or less acute, without which it is conceived that tubercular deposit never takes place. The reverse of this is supported by others, who as firmly assert that tubercles are the result of a peculiar action more immediately dependent on a debilitated state of the system generally, and altogether unconnected with inflammatory action. The partizans of both theories appeal, in support of their opinions, to certain general circumstances, which precede the development of the tubercular affection, and predispose to the diseased action in question; to particular circumstances co-existing and concurring during the progress of the affection in individual cases; and to the more specific, and therefore less questionable evidence obtained by the examination of the body after death.

I shall first advert to the proposition that tubercles may arise without of necessity implying any inflammatory action; and then review the leading circumstances which are conceived to bear on the question of the connexion of tubercles with inflammation.

In the first place, then, the history of the inflammatory affections, to which the viscera of the thorax are liable, may be briefly

reviewed, as illustrative of the proposition, that the deposition of tubercles in the lungs does not positively proceed from either catarrh, bronchitis, pneumonia or pleuritis.

It was in the olden time, and even till very lately, a prevalent opinion, that common catarrh constituted an ordinary exciting cause of phthisis. As the progress made by pathology advanced, this opinion became less credited, and a special kind of phthisis was described, considered to depend solely on this, as a cause. A circumstance, in itself, affording a strong presumption of the difference between real phthisis, resulting from the tubercular deposition, and consumption subsequent to, and depending on inflammation of the mucous tissue of the lung.

The existence of catarrhal symptoms along with true phthisis, does not necessarily imply the relation of cause and effect, and whatever value we might be disposed to attach to *a priori* reasoning (which now fortunately for science is getting into disuetude,) on this topic, clinical observations fully testify that there is no such intimate relation between the two diseases as has been maintained. Catarrh is undoubtedly one of the most prevalent affections to which the inhabitants of temperate climates are exposed, but though it is so frequent, and many experience it several times during the course of a winter season, phthisis does not necessarily ensue. Again, when it does occur in phthisis, and when its first appearance might indicate a consumption to follow, the examination of the chest has detected the ordinary physical character of tubercles, and in some instances has even disclosed the presence of tubercular excavations. In these cases the deposition, softening, and removal of the tubercular matter evidently preceded the catarrhal affection, and the generally admitted fact that there are many more individuals subject to catarrhal affection than become the victims of phthisis, sufficiently declare that there is a *something* more than mere catarrhal inflammation requisite to induce true phthisis.

On this point, the observations of Louis are highly satisfactory, for out of eighty instances, the history of whose cases was clear and specific (particularly as to the state of their health previous to the invasion of the tubercular affection) in only twenty three was it ascertained that catarrh had occurred frequently; and he further adds, that in females, whom he affirms to be more liable

to phthisis than males, inflammation of the mucous membrane of the lungs, is an event of much less common occurrence than in the other sex.

Pneumonia is an inflammatory affection of less frequent occurrence than catarrhal inflammation, but, nevertheless, it is sufficiently frequent, by its relation to the production of phthisis, to bear considerably on the question. The evidence it affords is of an analogous character with that presented by catarrh, and this applies to the disease, whether we consider it in its acute or chronic form, keeping in mind the fact that chronic pneumonia is an affection, comparatively speaking, of rare occurrence. The evidence as regards this disease, lies distinctly under two heads, namely, the general frequency of the two diseases, and secondly, the usual site of the tubercular deposition, and the pneumonic inflammation.

First then, as to the frequency of the disease generally. It is, indeed, to be conceded that pneumonia does co-exist with phthisis, but then these cases are not common, and there is as much reason to pronounce the pneumonia in such cases, subsequent to the tubercles, as the tubercular deposition consequent on the pneumonia. On this point, also, I beg leave again to revert to Louis, for by appealing to the evidence of numbers, he leads us directly to the most certain of all conclusions, namely, those based on data approaching to the precision of mathematical statements. Out of eighty cases of phthisis in which he had been able to trace distinctly the complete train of morbid phenomena, before the invasion of the tubercular affection, it was clearly ascertained that only in *seven* had there been attack of pneumonic inflammation,in four of whom the disease had occurred three, six, and fifteen years before the first indications of phthisis. The testimony of Bayle, Lombard and Lænnec is all to the same point, namely, that the attack of pneumonia is to be considered as performing a very subordinate part in the production of tubercular matter. It might further be stated as somewhat tending to the same doctrine, that pneumonia is a disease almost always of an acute character, whereas phthisis is to be considered of a very chronic nature, as compared with it, while, on the other hand the chronic form of pneumonia is rarely met with, the very reverse of which we would be disposed to antici-

pate on the supposition of any intimate relation subsisting between the two disorders.

In the second place, if we advert to the respective sites of the tubercular deposit, and pneumonic inflammation, we observe that while tubercles are most generally found in both lungs, the signs and indications of pneumonia are *generally* limited to one lung. We further notice that the deposition of tubercles is attended with a more or less abundant deposit of the same matter in other different organs of the body; whereas, in those cases where pneumonia has existed, simple and uncombined, there have been no such morbid appearance discovered. Besides, if pneumonia did stand in the relation of cause to phthisis as an effect, in what manner are we to explain the undoubted circumstance, that the greatest development of tubercular matter is so generally discovered in the upper lobes of the lung, while, on the other hand, should pneumonic inflammation have taken place, it seems to begin principally in the lower lobes, in which necessarily after death the disease is found to have made the greatest progress. To these observations may be added the fact, much insisted on by some of the Continental pathologists, that phthisis is more frequent in women than in men, whereas, pneumonia is of much more common occurrence in the male than in the female sex. Louis states that out of seventy five cases which he had examined, one third only were women; and of the whole, eighteen died, fifteen of whom were males, and only three females. This statement of Louis is fully confirmed by the researches of M. Grisolle.

"With the view," says this writer, "of accurately ascertaining what species of connexion existed between pneumonia and pulmonary tubercles, I questioned seventy two phthisical subjects upon the various ailments they had experienced previous to their admission into the hospital. Now of these seventy two patients, two had had more or less severe and well marked pneumonia three or four years before the outbreak of the first symptom of phthisis; their recovery had been perfect; two other patients had had pneumonia eighteen months or two years before; and from that period they began to suffer from cough and dyspnœa, and to lose flesh a little."

Similar remarks may be made in reference to pleuritis, for it seems to be much more common in men than in women, and

usually affects only one side. This, moreover, especially deserves notice, that if any deposition of tubercular matter is disclosed after death, it has been found as abundant on the healthy side, as on the side where the inflammatory action and effusion had taken place.

From these statements, then, the general inference would appear to be that idiopathic inflammatory affections do not possess any very important or decided influence in provoking the formation of tubercles, as a general exciting cause. The influence of an inflammation of the lung, in causing occasionally the rapid development of tubercles in persons previously predisposed, simply demonstrates an instance of the disturbed state of nutrition more rapidly giving rise to the tubercular deposition, but cannot be deemed as necessarily the cause. The co-operation of the pneumonia here may be the very same as that already alluded to under catarrh, namely, an incidental occurrence, the tubercles having pre-existed.

If, in the further prosecution of this subject, we attentively examine the precise pathological condition of any morbid tissue in which tubercular matter is deposited, the presence of inflammatory action is not so invariably met with, as to lead directly to the inference, that the appearance of the tubercle was, as a matter of course, preceded by inflammation. Many instances are observed, where no trace of inflammatory action can be discovered, and this fact considerably weakens the weight of the testimony to be given to those who allege that when traces of an inflammatory nature happen to be discovered, they were indications of the early stage of the affection, whereas they might be considered as arising spontaneously, or even as induced subsequently, in consequence of the irritation arising from the matter of the tubercles.

Should we direct our attention to the history of the causes which most materially co-operate in the production of consumption, we shall not discover that these belong in any especial degree to that series of circumstances which is more particularly believed to be efficient in the production of inflammation. On the contrary, many of them seem evidently to be of that character, which proceed from the agency of debilitating causes. No illustration, perhaps is more strikingly expressive of the agency of

these causes, than the very singular and melancholy history, given by Lænnec, of the inhabitants of a religious house, in which the rules and services adhered to were of the most strict and mortifying nature. In the short space of ten years, two or three successive races of sisters were required to reinforce the numbers of the establishment, in consequence of the greater number of them perishing from phthisis, induced by the austere life they followed. Within two or three months after they had entered on their duties, a derangement of the general healthy functions of the individuals was noticed, on which the ordinary symptoms of phthisis pulmonalis supervened, in the lapse of a short time. It is not to be understood that we adduce this as a positive proof that the phthisical affection was altogether unconnected with inflammation (for unfortunately the documents connected with the history of the establishment are not sufficiently explicit) but it is abundantly apparent that the causes co-operating here to induce the disease were of such a type as to preclude, in a great measure, the idea of inflammatory excitement being related to the production of the malady. And if in this case we admit (what indeed we can scarcely deny) the influence of these different depressing causes which are so well marked, we can also readily understand the observations of the older pathologists, who ascribed the source of phthisis, in particular instances, to the effect of certain mental emotions, but especially to melancholy.

It is apparent that, with those who advocate the theory of the production of phthisis or tubercles in groups of individuals from the inflammation arising in virtue of some local irritation, the peculiar state of the system itself is in a great measure excluded, which is essential to the development of the affection, and which specifically constitutes what has been called the tubercular diathesis.

Inflammation, in every varying form, degree, and length of continuance, and in every variety of tissue, is daily disclosed to our view in post mortem examinations, without necessarily exhibiting any of the ordinary forms of tubercular deposition. Inflammation, then, cannot of *itself* be considered as the cause of tubercular formations; for there must be a something additional demanded, that the usual products of inflammatory action should be, as it were, superseded, and that in their place we should have

substituted that species of matter commonly denominated tubercular. Moreover, if we can advance many instances of decided tubercular deposit, and no trace of inflammatory action, except what might be conceived likely to arise in consequence of the irritation resulting therefrom, we at least establish the vagueness of the *post hoc* and *propter hoc* line of argument. For whatever weight the facts brought forward, by those who maintain the hypothesis of the necessity of inflammatory action, may have, they cannot overturn the indubitable evidence of tubercles frequently forming, exclusive of any such action going on in any of the tissues.

Admitting what has been said to a certain extent, but not to such a degree as to allow its *special* influence, as tantamount to induce phthisis, or rather tubercular matter, and viewing the frequent concurrence of inflammation along with tubercular depositions; and also taking into consideration the not infrequent circumstance of a rapid development of phthisis and other tubercular diseases after certain inflammatory disorders, not a few pathologists have been led to adopt the almost exclusive opinion, that the production of tubercles results principally, if not solely, from the presence of inflammation. At the head of those who espouse this doctrine *in toto*, we may justly place the late M. Broussais, and in Great Britain, though he states the proposition in a somewhat modified form, we find the present professor of the practice of physic in the University of Edinburgh. The latest and best writer, however, on this side of the question, was the late B. Reinhardt.

This opinion is founded on the circumstance of the very frequent precursory symptoms of catarrhal irritation in phthisis, and on the rapid march of the disease to a fatal termination subsequent to an attack of acute inflammation of the lungs; and this view is to a certain extent supported, though much in a qualified manner, by the most zealous advocates of the non-inflammatory doctrine, the greater number of whom admit the occasional influence of inflammatory attacks in considerably modifying the accession of phthisis.

In prosecuting this inquiry Professor Alison has endeavored to establish the proposition—one on which he conceives that the theory is mainly grounded—that tubercles are very rarely met

with in the examinations of the bodies of children who are still-born, or who die very shortly after birth. In further corroboration of the theory, he then proceeds to prove, that when tubercles were discovered in young children, they were generally found to exist in connexion with inflammatory action.

It is believed that the child rarely acquires the disease from the parents; in other terms, that it is only a predisposition which it inherits, to be developed like diseases depending on other predispositions, by the concurrence of the peculiar exciting cause, which, in these cases, is conceived to be inflammation. Some of the cases which are brought forward in confirmation of these views are exceedingly well marked, and if we were to take a circumscribed and limited estimate of the pathology of this most extensive affection, might seem to afford strong affirmation of the hypothesis. But in a question of so wide a range as that of the generation of tubercles, which appear to be produced at all periods of life, from infancy to extreme old age, and in such an infinite diversity of constitutions, it would perhaps be premature to apply the peculiar pathological relations of the affection at one period of life, to the illustration of the whole series of morbid phenomena, as they occur at the different stages of existence. We all know the extreme delicacy of the tissues in the child, and we know also the extreme vascularity of the parts, and their consequent proneness to inflammatory action. Considering these circumstances, it is not unreasonable to infer, that inflammation, in these extremely susceptible tissues, would induce a greater disturbance of the system generally, than the same amount of inflammatory action could be capable of producing in the more mature state of the body, when its energies are more complete, and more able to sustain a morbid action with impunity. Besides, though inflammatory action may call into activity a dormant predisposition to disease, it does not consequently follow that the same dormant predisposition may not be excited by other causes than those of an inflammatory nature.

Andral, in his admirable clinical studies, while he admits in pretty strong terms the influence of congestion of blood or hyperemia, in provoking the tubercular deposit, nevertheless firmly maintains, that there must be a predisposition to the generation of these tubercles. Where the predisposition is strong and

decided, an accumulation of blood, or local congestion, without positively rising to a state of inflammatory excitement, may suffice to induce the morbid deposition; but in cases where there is less marked evidence of predisposition, the presence of actual inflammation may be requisite to produce a similar result. Accordingly, he concludes where there is *no positive predisposition* whatever, that the most severe, and the most prolonged state of inflammatory action, will not generate tubercular matter. In addition to what has been said, it may be observed that, however distinctly it may follow, from the cases so fully and explicitly detailed, that inflammation was the true cause, the inference, therefore, does not consecutively follow, that in other instances of the formation of tubercular matter there must also have been inflammatory action, although no signs or indications offered themselves during life, or presented themselves after death to demonstrate it.

No subject is more obscure, in many instances, than the period at which tubercle first begins to form. Tubercles, indeed, in so far as the symptoms developed are concerned, often attain a considerable progress, and are diffused over a great extent of tissue, whether it be the lungs, or other parts of the body, without offering any obvious signs whatever, constituting what has been denominated "latent phthisis." The existence of inflammation in these instances can scarcely be admitted, but that the occurrence of inflammation incidentally, by deranging the harmony of the functions of the body, might be naturally supposed to have a tendency to accelerate the morbid deposition, is agreed on by all. It is a point, at once conceded by Lænnec, whom we have already stated is a staunch supporter of the hypothesis, that the disease depends essentially on a particular state of the system, unconnected with inflammation.

Broussais insists stongly on the connexion between phthisis, and high inflammatory excitement; and in his able treatise, "sur les phlegmasies chroniques," brings forward not a few cases confirmatory of the relation occasionally noticed, to wit: of a rapid development of phthisis subsequent to acute pulmonic inflammation. To these cases, however, the same general objections apply, as to those already mentioned.

In further investigating this question, it has been observed

that, contrary to the old and prevailing idea, phthisis is, perhaps, as prevalent, if not more so, after the thirtieth year, as anterior to that period; and that in these cases, the subjects of the disease had been generally exposed to long continued irritation. As a corroboration of this idea Dr. Alison adverts, especially, to the history of stone masons, that is, those men who are engaged in hewing stones by means of the chisel, and who are, therefore, constantly exposed to the irritation produced by the fine particles set at liberty during their operations. But there is no positive evidence, however distinct the marks of inflammatory action were in those cases, that the morbid appearances were such as indubitably to lead to the conclusion that there were tubercles formed. They are briefly described as follows: "portions of the lungs hardened and condensed; others in a soft, pulpy state, nearly resembling the ordinary texture of the spleen; and others loaded with effused serum; with much adhesion of the pleura, and great effusion into the bronchiæ."

But in addition, it does not appear that in other instances where men have been much exposed to the irritation of minute particles of siliceous matter, that they seemed to suffer proportionally more, than others not so situated, from tubercular disease. It is even asserted by M. Benoiston de Chateauneuf, that of 887 quarry men, 557 stone cutters, and 160 marble workers, the proportions of cases of phthisis were less than are found on a general average. Individuals, also, who are exposed, in the exercise of other employments, to the irritation arising from noxious particles floating freely in the atmosphere, seem, according to the experience of Thackrah, to suffer *first from general symptoms of indigestion*, on which, symptoms of deranged condition of the lungs succeed.

It seems distinctly shown, that individuals exercising the trades above referred to, are exposed at the same time to a variety of other causes, which contribute, in no small degree, to the production of the tubercular state of the lungs; and accordingly, while we give the local irritation from the extraneous particles full weight, *these* ought no less to be carefully considered, in forming a just estimate of the importance to be attached specifically to each kind of cause. The sedentary condition of the

different artizans; the peculiar and unnatural position in which their bodies are placed, for a long period of time; the confined and impure atmosphere which they respire; and the want of exercise in the open air which seems specially to constitute an essential element in the development of an healthy organization, undoubtedly must all be taken into consideration.

The effects of confinement are notorious in different animals, as almost all the monkey tribe, which are confined in menageries and zoological gardens, generally die of tubercular disease of the lungs; and it is well known in Paris, that tubercles are developed in cows, after they have been kept for any length of time in dairies.

With those, who espouse the inflammatory view of the question, the observation of Majendie is appealed to, as strongly favoring their hypothesis, namely, that in those cases where he had discovered tubercles, apparently in the earliest stage of their formation, and of a very diminutive size, they were distinctly surrounded by a circumscribed vascularity. Other observers, however, do not corroborate these statements; and Dr. Armstrong distinctly states that in many cases where tubercular points are dispersed over the pleuræ or peritoneum, the membrane preserves a transparent character up to those points, only appearing red at those parts where the deposition has been so large as to act as a local irritation.

Reinhardt is the latest writer on this side of the question. He sees in tubercle nothing but the products of inflammation. "In some cases of chronic pneumonia, Reinhardt found a gelatinous fluid in the cells and interstitial tissue, containing epithelium and pus. At a later period the epithelium was in a state of fatty degeneration; the fluid was diminished in quantity; the interstitial tissue contracted; the cells lessened in volume; and, finally, a kind of cicatrix was formed. In various stages these states have been termed, respectively, gelatinous infiltration, grey tubercle, and tubercular cicatrix. In other cases of so-called yellow tubercle, Reinhardt found pus in the air-cells; the pus became thickened, dried up, and the nuclei disappeared. Shrivelled pus-cells, and not nuclei which have become free, form the so-called tubercle-corpuscles. Although Reinhardt considers that

in some instances the tuberculous process arises from local causes, viz: hyperæmia and recurrent inflammation; yet he admits in many cases these indicate a state of dyskrasia."—(Brit. For. M. C. Rev. No. xxi, p. 185.)

Finally, an appeal has been made, to what might be considered, as a very happy and satisfactory *instantia crucis*, namely, the production of tubercular matter by artificial irritation. Cruveilhier and Dr. J. P. Kay have both labored in this field, and testify as to the production of matter, analogous to tubercular, by injecting mercury into the tissues of different animals. The former caused two ounces of quicksilver to be introduced into the lungs of a dog, by an opening made in the trachea. Though a considerable portion was rejected, emaciation rapidly succeeded, and the animal died at the end of a month. On examination after death, the lungs were found "thickly beset with solitary and agglomerated tubercles, displaying all the characters of miliary tubercle." By another experiment the same substance was introduced into the femoral vein of a dog, which was killed several days afterwards. On inspecting the limb, "numerous small miliary tubercles were observed of a definite form, in the centre of each of which was a minute globule of mercury."

On introducing the same fluid into the trachea of rabbits, the same appearances were observed by Dr. Kay. In one of these animals, which perished on the eighth day after the operation, the following morbid appearances are stated to have been seen. "The upper lobe of the left lung was discovered hepatized in the whole of the anterior border, through which were scattered small granular bodies of a yellowish color, each containing in its centre an extremely small globule of mercury. They had all the external characters of ordinary tubercles. In the centre of this lobe existed a cavity, containing a soft, caseous substance, surrounded by a firm membranous cyst, about two and a half lines broad, and three in length. Large globules of mercury escaped from this cavity. In the posterior part of this lobe was an extremely small cyst containing neither tubercular matter, nor a mercurial globule. The lower lobe of the left lung was also hepatized, in the whole of the anterior border, through which numerous small granular, and apparently tubercular bodies, were deposited, con-

taining generally, a small globule of quicksilver in their centre. The superior lobe of the right lung was in some portions hepatized. A greyish and apparently tubercular substance was infiltrated into portions of the pulmonary texture. In the anterior part of this lung existed a large encysted cavity, filled with a soft, yellowish, granular mass of a caseous consistence, resembling the matter of softened tubercle. The cyst was distinct, apparently well organized, being of a firm texture, and the cavity was capable of containing a large pea."

Strong as these cases appear to be, nevertheless, they are not of so specific a character as not to admit of being questioned. The rapidity of the progress of the disease, contrasted with the usual routine, which we observe in phthisis, when it occurs in the human subject, forms one of the most serious objections that can be urged against them. In these experimental cases the disease seems to have displayed all the characters of common acute inflammation. The only legitimate inference to be drawn from them would seem to be that the small globules of mercury acted as sources of irritation, and caused the formation of coagulated lymph around them. Such a phenomenon is known to take place in cases of foreign bodies accidentally introduced into the lungs, lymph being effused and a cyst formed. A remarkable case of this kind is somewhere related, of an individual who had suffered from all the symptoms of phthisis, for a considerable time, but recovered suddenly and permanently, after the rejection of a quantity of small shot from the lungs. It would appear then, that it does not accord well with the general pathology of tubercles to believe that an illustration can be drawn from these cases to the disease as it exists in man. For supposing we allow that the experiments of M. Cruveilhier and Dr. Kay did distinctly prove the formation of tubercles at those points where the local irritation had been applied, it only proves the local effect of an irritant; and the case falls altogether short, if we attempt to institute a parallel between it and common phthisis, where, supposing the primary irritation is that arising from cold air, or other causes conducive to the production of inflammation, not only is the lung the organ which suffers, but all the other viscera are more or less implicated; and there is no pathologist so hardy

as to affirm, that in these cases also, the local agency of inflammatory irritation had been at work. But in the rabbits no mention is made of the co-existence of tubercular deposits in any other part of the body, which is what we would naturally suppose to be the consequence, did the generation of the disease rest for its sole cause on primary local irritation of the lung.

The conclusion, from what has been said, appears to be, that tubercles are not the production of inflammation, and that when it does occur it is generally after the deposition of the tubercular matter.

By the term inflammation is generally understood, that state of a part in which it is painful, hotter, redder, and more swollen and turgid than natural, which symptoms, when present in any considerable degree, or when they affect very sensible parts, are attended with fever, or a general disturbance of the system. (Burns.) This definition of inflammation has been adopted in what has been written, for the obvious reason that it expresses well the meaning of the term used by those whose views have been mentioned. The modern and certainly more philosophic theory on the subject, makes inflammation "a peculiar perversion of nutrition or of secretion," attended with various abnormal conditions of the blood and its vessels, the most essential of which is exudation in the affected part. (Pierrie.) Now, if we admit with Rokitansky, that tubercle is an exudation, and that exudation is a result of inflammation, then of course it follows, that tubercular deposit as well as cancer, is produced by inflammatory action. But this point is by no means conceded, for we have Virchow declaring, "that tubercle is nothing more than a retrograde metamorphosis of pre-existing structures."

A Case of Gunshot Wound of the Intestine—Recovery. By John Neill, M. D., Surgeon to the Pennsylvania Hospital.

From the Notes of Dr. James Darrach, House Surgeon.

Instances of gunshot wounds of the intestines, in which the ball was passed per anum, are so rarely reported, that Hennen, Guthrie, South in his translation of Chelius, and other writers on the subject, refer to the same case, that of Sergeant Matthews, who not only passed a ball but also a portion of the waistband of his breeches. The following case is somewhat similar.

Michael Kelly, aged 14, of sanguine temperament and good constitution, was received in the Hospital July 30th, 1853, at 5½ o'clock, P. M., with a wound of the abdomen on the left side, about two inches above the anterior superior spinous process of the ilium. He stated that he was playing with a pistol loaded with four or five gravel stones, and in attempting to cock it, it was discharged and the contents received into the abdomen. The muzzle of the fire-arm was about two inches from the abdomen at the time of the discharge. The accident happened at Bristol, twenty miles from the city, at 12 o'clock of the day of his admission. The wound was dressed by a physician of that place, and a gravel stone was removed from the wound by him. The wound was two inches long and half an inch wide, much burned and blackened by the explosion; and filling up the orifice of the wound, was a small black knuckle of intestine. The different layers of the wall of the abdomen were separated from each other around the wound, and from between the peritoneum and fascia transversalis, I removed a gravel stone about the size of a pea. Pulse 90, skin warm and moist, tongue natural, no anxiety of countenance, or restlessness, complains of no pain on pressure about the wound, tendency to drowsiness, face slightly flushed. Edges of the wound supported by adhesive straps, dressed with wet lint. The body and thighs approximated. Ordered hydrarg. chlorid. mit. ¼ gr., opii. gr. ¼ every hour. An enema of tinct. opii gtts. xl., every two hours until patient sleeps.

Ten o'clock, P. M.—Pulse 100, skin bathed in perspiration, face much flushed, not sleeping yet. Repeated the injection of

tinct. opii gtts. xl., ordered calomel ¼ gr. pulv. ipec. opii gr. iv. every hour during the night, and the injection of tinct. opii gtts. xl. every two hours until patient sleeps. No nourishment but a tablespoonful of iced barley water every half hour.

July 31*st.*—Slept about three hours last night. Pulse 90, soft and full, skin warm and moist, face not much flushed, complains of slight pain about the wound, which was not dressed. Treatment continued. 7 *o'clock, P. M.*—Same condition, and is freely narcotized; bladder paralyzed, used the catheter. Opiates suspended.

August 1*st.*—Slept well all night, feels much better, has no pain. Pulse 100, soft and full, skin warm and moist, face slightly flushed, tongue coated with white fur and moist. Renewed the Dover's powder and calomel. 7 *o'clock, P. M.*—Pulse 97, and small, skin natural, tongue coated with white fur and moist, complains of no pain, slight tympanites, slight nausea, bladder still paralysed, used the catheter. Suspended the Dover's powder and ordered calomel gr. ¼, opium ¼, every two hours, and enema of tinct. opii gtts. xl. at bed time. Hot fomentations to the abdomen.

August 2*d.*—Did not rest well last night, slept about two hours. Pulse 100, and small, skin warm and moist, tongue white, furred and moist, no pain or tympanites, slightly ptyalised. He passed during the night five grumous and bloody discharges, one containing a gravel stone about the size of a large pea, which was the first evidence of a wound of his bowel. Suspended his calomel and ordered tinct. opii. gtts. x. every two hours, unless he sleeps; hot fomentation to the abdomen, barley water as diet. Passed his urine last night and this morning without assistance. 7 *o'clock, P. M.*—Pulse 88, full and soft, skin and tongue natural. Surface of abdomen concave, no pain in the belly on pressure. Patient says he feels very well; ordered an enema of tinct. opii gtts. xl. at bed time.

August 3*d.*—Pulse 84, full and soft, skin and tongue natural, no pain or tympanites, slept well during the last night. Bowels moved this morning, the discharge grumous and contained another gravel stone. Dressed the wound for the first time. The slough beginning to separate, some pain around the edges of the wound and effusion of fibrin about it. Dressed the wound with

wet lint and adhesive strips, ordered tinct. opii. gtts. x. every two hours. Hot fomentation to abdomen and barley water diet. 7 *o'clock, P. M.*—Same condition as this morning, ordered an enema of tinct. opii gtts. xl. bed time.

August 4th.—Slept well all last night. Pulse 82, full and soft, tongue and skin natural, no pain or tympanites, local effusion of fibrine around the wound, extending to a diameter of four inches. Dressed the wound with wet lint; slough entirely separated. Suspended tinct. opii, ordered simply barley water diet. 6 *o'clock, P. M.*—Same condition, ordered enema of tinct. opii gtts. xl. at bed time.

August 7th.—Has continued to improve. The discharge from the wound has been sanious until to-day. The pus is now more laudable, and a gravel stone of the same size as the two passed per anum was found in the discharge from the wound. The enemata of laudanum discontinued.

After this time, the wound gradually filled up and contracted, his bowels were naturally moved, and he was discharged perfectly well on September 19th.

Remarks.—It will be observed that the treatment in the above case was not in conformity with the principles usually laid down by authorities upon this subject. Hennen and Guthrie recommend repeated bleedings ad deliquium animi, and consider the loss of blood, both general and local, as one of the main reliances of their treatment. In the treatment of the above case, opium was the main dependance; the object held in view was *complete rest of the bowels* by overcoming peristaltic action, and this was accomplished satisfactorily by laudanum enemata.

One of the great difficulties occurring constantly in this class of injuries, is the nausea and vomiting, therefore care should be taken not to distress the stomach of the patient with remedies, and perhaps we might even say that nothing should enter the stomach but a little cool mucilage, which is absorbed before it enters the small intestine, thus preventing peristaltic movements.

We do not of course mean to intimate that every wound of the abdomen or intestine is to be treated by laudanum injections and barley water, or that there are no cases requiring both local and general bleeding, but would merely call in question, the propriety

of those teachings which inculcate the necessity of bleeding in advance, and constantly bleeding to fainting for every febrile reaction. We must expect inflammation, and *we wish its essential phenomenon, exudation*—exudation of a fibrinous kind: This is what nature attempts when she glues the intestines together, so that peristaltic motion cannot take place, and we always hope to find the convolutions agglutinated, at least in the vicinity of the wound. We do not wish a mere watery effusion, which repeated bleedings are always apt to produce, but a rich fibrinous plasma. Inflammatory symptoms are not to be feared, provided the system can stand the shock of the reaction.

The shock of the reaction as well as the shock of the injury may kill the patient, but agglutination of the bowels even if it were general, cannot in itself produce death; it is not the effusion which kills, but the shock of the inflammatory reaction, and how can this be better obviated than by opiates?

Another point to which we would call attention is the administration of calomel; there are reasons why it should be given sometimes; it may assist in preventing unnecessary intensity of inflammation, and may be useful in diminishing local congestion of the bowel by its relieving the portal circulation; and by increasing the secretions of bile, &c., we may remove irritating ingesta. But then, on the contrary, how often does it do harm in these and analogous cases; it unquestionably produces nausea and vomiting, unless given in very small doses and combined with opium; it defibrinates the blood; and the chance of having the intestines firmly glued, and the opening well-covered by a thick firm plasma is certainly diminished; and it may purge, and thus increase the peristaltic movement of the bowels, which most of all should be avoided.

It might be said in opposition that in many acute inflammations, e. g. iritis, the most decided advantages are obtained from frequent and free bleedings in conjunction with the especial effects of calomel; and this is unquestionably true. But in iritis, and in a wounded bowel or peritoneum, two very different results are to be anticipated. In the one, we *fear* that a fibrinous effusion will block up the pupil and agglutinate the fibres of the iris, and by bleeding and calomel we hope to diminish the amount of effusion, and thus render it as thin as possible in order that it

may be easily absorbed. In the other, we *hope* for a fibrinous effusion, and wish the bowels to be attached.

Equal benefit may be derived from this treatment after the operation for hernia. Calomel should be especially avoided, and everything else that will increase the peristaltic movement of the bowel; instead of giving a laxative, after operation, give an anodyne; instead of a dose of oil, give opium and a laudanum enema. Instead of irritating by a purge a bowel already injured by strangulation, place it at complete rest, and let it recover from the shock already sustained. The retention of the fæces can do no harm to the bowel above the strangulated knuckle, which may be injured by disturbance. In many instances recently, after operating for hernia, we have pursued this plan with most satisfactory results.

BIBLIOGRAPHICAL NOTICES.

Homœopathy. Its Tenets and Tendencies, &c. By JAMES Y. SYMPSON, M. D., F. R. S. E., Professor of Midwifery in the University of Edinburgh, &c. Lindsay & Blakiston: Philadelphia.

Homœopathy Fairly Represented—in Reply to Dr. Simpson's, "Homœopathy" Misrepresented. By WM. HENDERSON, M. D., Professor of General Pathology in the University of Edinburgh.

The claims of Homœopathy upon our attention are of such a nature, both as regards its theory and the influence which that theory has exerted and still exerts upon the public, that false, unphilosophic, and, as a practice, negative as we may deem it, it fairly demands at our hands a respectful investigation. Ridicule and obloquy do not comport, in our view, with the consideration due to so important a subject, and we may be sure, that their indulgence, however tempting, must materially retard that final judgment, which all should be anxious to arrive at. Entertaining these opinions, we shall endeavor to give our readers a fair and candid notice of the above works; with the impartiality

of an honest critic, neither withholding censure where deserved, nor refusing to recognize the truth wherever we may find it.

The acknowledged talents of the two writers, both of them Professors in the University of Edinburgh, are, in a measure, guarantees for the able manner in which they have respectively treated their subjects. A very different spirit however animates and breathes throughout their works. Dr. Simpson always preserves his good temper. Dr. Henderson, on the contrary, exhibits a rankling bitterness of feeling which sets all courtesy at defiance.

Both writers introduce too much irrelevant matter. In this particular Dr. S., as the aggressor in the contest, is most deserving of blame. We will only mention two instances: the story about the box of homœopathic globules lent to Dr. H., and Dr. Horace Green's relation of certain incidents. Those who have perused the reply, will agree with us that nothing is gained by the introduction of these matters. The affair of the box is related differently; in fact, they are at direct issue upon it. As for our unfortunate countryman, Dr. Green, from his entrance on the scene until his dismissal, he is fairly pilloried for the reader's amusement; his suggestive name causing to be showered down upon him the most merciless and contemptuous ridicule—in our opinion, alike unwarrantable and ungentlemanly.

This clap-trap, theatrical style of writing is much indulged in by Dr. H.; when hard pressed he always turns to it, like the fox to his cover.

We are constrained to say that we cannot agree with Dr. Simpson in his condemnatory remarks of the psoric hypothesis, commonly called the itch doctrine. His mention of this, as an instance of Hahnemann's folly and ignorance, affords Dr. H., who, it will be remembered, is Professor of Pathology, an excellent opportunity of reading him a lesson, of which he eagerly and fully avails himself. As the subject is quite interesting, we shall afford our readers an opportunity of forming their own conclusions. "Psora," says Dr. H., "was an ancient term used almost indiscriminately for every diversity of chronic and almost every kind of acute cutaneous disease." "The discrimination of a *particular disease* which should be distinguished as *itch* from all other skin diseases, by its *insect* (or

rather arachnid) more especially, is entirely a modern accomplishment, indeed, as a general attainment, it is but a very few years old, and *was not recognized at all by Hahnemann.*" Dr. H. states that Hoffmann, among the many "other diseases" which he ascribes to the itch (meaning by that term any chronic skin disease) mentions "epilepsy, amaurosis, hematuria, consumption, rickets, hooping cough, apoplexy, and rheumatism." In our own times, Schönlein the able Professor of Pathology and Therapeutics in the University of Berlin, strongly advocates the same view. Mr. Paget and Dr. W. Budd are also adduced as supporters "of the doctrine that a morbid material in the blood is the cause of many diseases of the skin, bones, joints, arteries, &c., not always ascribed to such a source." Dr. Budd, after expressing his opinion that this morbid matter produces skin diseases by entering into union with portions of the cutaneous tissue, says "that the morbid matter is liable from various causes to be repelled from the surface, and in consequence to produce numerous disorders in internal parts." "Without believing," says Dr. H., "that the modern doctrinal pathology of the allopathic physicians to whom I have referred is correct in every particular, I am prepared to contend that it is just in the main, and *must* be held by every well-informed and observant physician. For Hahnemann's doctrine differs in no one essential particular from theirs, and has no more to do with the itch than theirs, nay, much less; for Schönlein specifies the *particular disease*, now distinguished as *itch* by its insect, as capable of causing internal diseases, which Hahnemann *never did.*" The gauntlet is then thrown down by Dr. H. before his adversary, and he is challenged to take it up and argue the point in issue, for the honor of his sect, if he believes them to be committed to the rejection of this hypothesis.

If the above be their belief, we sincerely hope that hereafter we shall be spared any further ridicule of this *itch-doctrine.* It seems to us to be in entire consonance with the humoral pathology of the present day. Whether this be so or not, however, it has no connection whatever with either the theory or practice of Homœopathy, and we can see no good reason why it should be always dragged into the contest.

We shall now consider the real points at issue, the Theory and Practice of Homœopathy.

The universal application of the doctrine,—*similia similibus curantur*,—which means, that to effect a cure we must prescribe a remedy which can itself create an affection similar to that sought to be cured; the provings of these medicines, which are the effects they produce on persons in health, or the new symptoms they cause to appear in the sick; and the infinitisimal doses in which these latter are given, are the essential characteristics of Homœopathy. These are separately and we think fairly and candidly examined by Dr. Simpson.

The first, claimed by Hahnemann and his followers to be the only universal, infallible therapeutic law, is shown to exhibit none of the characters of a law, even of a low degree of generality, much less those of an universal one. "It would be a very wearisome," Dr. Simpson observes, "and a very useless task to follow out this enquiry in relation to any great number of diseases. Let us consider it in its bearings upon two or three only; for, in truth, our limited space forbids us to allude to more. And for illustrations, let us take the examples which Sir John Herschell adduces in his "Preliminary Discourse on the Study of Natural Philosophy," as instances for which the advancement of Science, of late years, has devised more or less certain means of removal and cure. These instances were, of course, originally cited by that author without any view to such a question as the present; and are hence free from the prejudice of selection. Sir John Herschell adduces as his illustrations the treatment of the following four diseases, viz: the cure of ague, or intermittent fever, by quinine; the arrestment of the ravages of small pox, by vaccination; the suppression of sea scurvy in our fleets, by lemon juice, &c.; and the removal of goitres, by the use of iodine. These examples are as good as any other, and for the present object the more apposite, inasmuch as the first in our enumeration formed in Hahnemann's mind the alleged fact by which the doctrine of homœopathy was primarily suggested to him; and the second has been adduced by his disciples as the best marked instance in favor of his doctrine."

Hahnemann supposed that cinchona cured intermittent fever, because, when taken in ordinary doses, it produces, in the healthy system, an intermittent fever, or symptoms similar to it. "Like

cures like." In regard to this statement, it is observed by Dr. Simpson, that "there is scarcely a British medical practitioner who has not exhibited cinchona or quinine to his patients hundreds of times. Among our population many thousands of individuals have taken the cinchona, or its concentrated principle, quinine, and the alleged result, viz., the production of ague, has many thousands of times failed. Indeed, most of the individuals in these islands who have been repeatedly sick (and who has not?) have taken, at one time or another, doses of cinchona or quinine as a tonic or otherwise. Has one of them ever had ague, or a disease like ague, produced by the use of this drug? I am informed that one house in London manufactures every year, for medical uses, about £30,000 worth of quinine. Does a single dose out of this vast quantity ever create ague in those to whom it is administered?" "Besides, many people have taken continuous doses of quinine to acquire increased tone and strength, even after they were in a state of comparatively good health; and not a few more of our officers and others serving on the coast of Africa, and in India, have (as was first, I believe, recommended by Dr. Copeland) taken long courses of quinine without observing ague to follow its use."

In regard to vaccination and its effects upon small pox, Dr. S. states that, "in order to cure a disease by means of a similar affection developed by a homœopathically chosen remedy, we should, according to Hahnemann, excite in the body an artificial or 'medicinal disease somewhat greater in degree' than the natural disease which we wish to remove. (Organon, P. 41.) The physician, he elsewhere observes, 'affects the vital force in a stronger manner by a potency that produces a disease very similar but *stronger*.'" (P. 128.) "When, however, we use, as a preventive of small pox, artificial inoculation with small pox, (variolation), or artificial inoculation with cow pox (vaccination), the artificial disease is not, what is hypothetically required by the homœopathic law, a *greater or stronger* disease than the small-pox itself. Besides, when small-pox inoculation was used, as was very generally and very successfully done in the last century, to prevent small pox, (and has been lately proposed to be done again by some modern physicians, as Drs. Copland, Gregory, and Trousseau,) the remedy thus employed did not pro

duce symptoms merely *similar* to small-pox, but symptoms *identical* with it. In fact the two diseases were identical and the same. The effect, if explicable in this way at all, was not certainly an effect of the homœopathic law, similia similibus curantur,—of like cured by like; but rather of the isopathic law of Luz, viz., of the same disease cured by the same,—æqualia æqualibus curantur. And the same remark may be extended to the present practice of vaccination, seeing that almost all pathologists are now agreed that small-pox and cow-pox are identically the same disease, with this difference, that the cow-pox has been modified by passing through the body of the cow, but can be reproduced again in the cow by exposing it fully to the contagion of human small-pox."

Prevention and Cure of Sea-Scurvy by Lemon-juice.—"Scurvy," says Dr. Watson, "is infallibly and rapidly cured by the administration of lemon-juice, or of other fresh fruits and vegetables." "But again," says our author, "while the use of fresh and succulent vegetables, such as salads, fruits, etc., will almost infallibly *cure* any common case of scurvy, certainly the daily use of salads or fruits by the general community does not *produce* in them that disease; and yet, I repeat, such a diet ought to have such an effect, provided there were any truth in what Hahnemann terms his "infallible, eternal law of nature."

Cure of Goitre by the Exhibition of Iodine.—"In consonance with the unerring law of homœopathy, this drug, which thus removes goitrous swelling of the neck, ought also to produce an affection similar to goitre in the neck or thyroid gland. But though preparations of iodine are used most extensively in medical practice for other diseases, (about 50,000 lbs. of iodine being manufactured annually in Great Britain for medical purposes alone,) no one, I believe, has ever seen the drug produce this affection, or any affection in any degree similar to it, in the neck or in the thyroid gland, which it ought constantly to do, under these circumstances, if there were truth in the homœopathic law. We are told, however, by the homœopathists, that some day they expect to see an instance in which the use of iodine will coincide with an enlargement of the thyroid gland, or with symptoms of goitre. And they agree that this "coming" case will prove that the action of iodine is homœopathic; illogically arguing in this,

as in other instances, that any such rare exception, provided it ever did occur, ought to be received as a general and universal fact. As well, and as logically, might a naturalist take it upon him to aver, as a general law, that man was actually a treble-headed animal, and, in confirmation of it, tell us that he was merely waiting for an instance of the birth of such a human monstrosity showing three heads, believing that such an occurrence would prove the truth of his supposed generalisation." These extracts are sufficient to satisfy any intelligent mind, that the law of similia similibus curantur, does not hold good as regards the remedies above mentioned. And as they were not selected by the author, we think it but reasonable to infer that it is equally inapplicable to the remainder of our materia medica.

The special symptoms produced by medicines are obtained by Homœopathists from several sources. These are the known effects of special remedies in particular diseases; the symptoms exerted by the poisons on the healthy; and finally, and principally, the effects or "artificial symptoms" which follow the exhibition of their various drugs upon persons in health or in a state of disease. These latter are called "provings." Common salt, *proved*, causes 450 symptoms, and consequently cures them when occurring in a state of disease. It is usually employed in doses of the twentieth or thirtieth dilution, and the effect of one of these is said to continue, in chronic affections, from 40 to 50 days. Chalk employed in the same dilution causes 1000 symptoms. The duration of *its* effects are fifty days in chronic diseases, and so on. Some of the symptoms recorded by Jahr, in his Materia Medica, as occasioned by different drugs, are most extraordinary and unnatural. Salt, besides other symptoms, causes paralysis; tendency to experience dislocation; typhus fever with debility; hatred to persons who have formerly given offence; numbness on one side of the nose; disagreeable risings after partaking of fat food or milk; excoriation between the buttocks, especially when walking; numerous flaws in the nails; redness of the great toe; corns on the feet. Chalk causes a strong desire to be magnetized; emaciation without failure of appetite; great plumpness and excessive obesity; flaws in the fingers; snoring during sleep; quotidian fever towards two o'clock in the afternoon, or tertian fever in the evening; dizziness after scratching behind the ear; immense

size of the head; lachrymal fistula; dilatation of pupils; polypus in the ears; fœtid smell from the nose; before the evacuation, great irascibility; warts on the arms and hands, &c. Sweet violet causes an aversion to all kinds of music, and principally to the violin; the symptoms of doses of colchicum are singularly aggravated by a too brilliant light, and by the smell of pork; sulphur causes easy dislocation of the foot when walking. The provings of two hundred other drugs, as recorded by Jahr, are quite as absurd as those we have mentioned. Some of the delusions caused or said to be caused by certain medicines are quite curious. Thus the delusion that he is riding an ox is produced by belladonna; that he is a goose, by conium; that he is a child, by cicuta; that he has old chairs to mend, by copper; that his head and nose are transparent, by belladonna; that his feet are in his brain, by amphisbœna; that men are swine, by henbane; pretending to crack nuts, by the same; pretending to drive away peacocks, by hyoscyamus; eats his shoes, by veratrum; tries to climb up the stove by henbane, &c.

Surely any comment on the above is unnecessary.

There are four "doses," "potencies," "divisions," "dilutions," &c., in use among homœopathists. The lower range from the original form of drugs up to the sixth attenuation. The middle from the sixth to the thirtieth. The higher from the thirtieth to the two hundredth, and the highest from the two hundredth to any where above that number. Several homœopathic works give their readers a standard table, showing the amount of a grain or drop of any drug in the "lower" or "middle" dilution. "The first is one hundredth of a drop or grain; the sixth is one billionth; the twelth one quadrillionth; the eighteenth one sextillionth; the twenty-fourth one octillionth; the thirtieth one decillionth, or 1,000,000,000,000,000,000,000,000,000,000,000,-000,000,000,000,000,000,000,000,000th. This decillionth, in other words, "consists of a minute globule of sugar, moistened by being simply dipped in a drop out of an ocean of fluid one hundred and forty billions (or 140,000,000,000,000) times as large as our whole planetary system, and which enormous ocean has been medicated for the purposes of homœopathy, by having dissolved and mixed through it one single grain of the appropriate drug."

Such are the astounding results obtained by calculation. As a pledge for their accuracy, (and for many others in the appendix,) we are told in the Preface that they have been carefully looked over by four or five of the most distinguished mathematicians in Great Britain.

How does homœopathy fairly represented answer these matters? How is its author enabled to stand before such a storm of facts, figures, illustrations and arguments, as assail him in Dr. S.'s book, capable, one would think, of crushing a far more defensible theory into the most infinitesmal atoms? We will inform our readers. Like a skilful counsel, whose case is considered perfectly desperate by all who have listened to the testimony, Dr. Henderson commences his reply by boldly assuming, not from any "vain confidence" in his own powers, but entirely from the weakness of his adversary's argument, that the verdict must be given in his favor. Then discreetly yielding, with a charming show of candor, what would have been folly in him to have attempted to maintain; by availing himself of every assailable point of his adversary's reasoning, and slighting his strongest and most important arguments; by charges of misrepresentation, cries of persecution, threats of exposure, and contemptuous flings at the testimony and witnesses adduced, he hopes, in the dust, "noise and confusion" thus raised, to conceal his discomfiture and defeat. Less arrogance and presumption, while it would not have detracted from his arguments, would, at least, have secured for him more of the respect and sympathy which should always be accorded to the vanquished.

The points at issue, as he himself states, are "partly about the use of the law, partly about the provings, and partly about the dose." Let us hear his defence. And first on the universal application of the law—similia similibus curantur. It will be remembered that four instances, which we might almost say were taken at random, were adduced by Dr. Simpson of the inapplicability of this law. To the first of these, the cure of ague by quinine or cinchona bark, which should consequently cause ague, he rejoins that such is its effect. Two of the authorities he quotes to prove this, Pereira and Christison, respectively mention that by large doses "a febrile state is set up, (manifested by the excitement of the vascular system and dry tongue,)" and that "it is

apt to excite nausea, pain in the stomach and *febrile symptoms.*" The other, Guersant, observes of the sulphate of quinia, that "it excites a true febrile movement of more or less duration;" and of the bark itself, he says, "the reaction which it manifests many hours after its reception is, in general, much more marked (than of the sulphate;) it manifests itself by heat of skin, by more vivacity and energy in the motions, &c., although the *febrile condition* is not long continued." Again, in regard to the sulphate, the same author mentions, that in some it produces "great anxiety, acsompanied with *shiverings*, faintness, *cold sweats* and agitation."

Referring our readers to Dr. Simpson's remarks on this point, we shall merely add, that neither of the above writers say one word about the *periodicity* of the symptoms they mention, which it is unnecessary for us to observe, is the peculiar characteristic of ague.

Vaccination and its effects upon Small Pox.—Dr. Henderson contends, that although inoculation of the cow with small pox virus produces the vaccine disease, that the two diseases are not identical, though similar; and that it is in virtue of this similarity that the vaccine virus is homœopathic to small pox. This is easily refuted. Vaccination, inoculation, (or what is the same thing, an attack of small pox,) are equally preventive of that disease. An attack of scarlet fever, or measles, or chicken pox, prevent in the same way *their* recurrence. Do each of these latter diseases, from its being homœopathic to itself, prevent this liability to a second attack? The truth is, that all these affections are non-recurrent, and the chance of a successful re-vaccination is about equal to that of a second attack of small pox.

As regards the prevention and cure of sea-scurvy by lemon-juice, we are informed that Dr. Stevens *has* related a case in which citric acid produced scurvy. Also, that as it is entirely due to unsuitable food, it is consequently cured by restoring to the diet the ingredient that is deficient. Thus potatoes, milk, &c., cure scurvy as well or better than any substitute given by physicians. Lemon-juice is said by some to act dietetically by supplying the potash salts, which are believed to be wanting. For these reasons, he is surprised that scurvy should be adduced as a case for drugs at all.

We are perfectly willing to waive the matter, as we think his objections are, in the main, just. If lemon-juice be dietetic in its action, it proves nothing for homœopathy. On the contrary, if it act medicinally, as supposed by most physicians, we ought to see, which we do not, cases of scurvy all around us, produced by its use. As regards Dr. Stevens' case, it is but reasonable to suppose, that as in all time and by no other writer is such a circumstance related, that he was incorrect in ascribing such a result to its use.

Cure of Goitre by Iodine.—Of this substance Dr. H. observes that if it "be not homœopathic in its action ('to scurvy') what is it? no one can tell, or at least *prove*, anything on the subject." Also, that for certain effects in the provings of drugs "to be characteristic, they need not be constantly produced, or even in many persons." Some approach to the pathogenetic effects in question, as glandular swellings in the neck and elsewhere, and the increase of the disease at the commencement of its exhibition, has been made in the provings of iodine. In a note appended, we are informed that "a man taking four grains of hydriodate of of potass twice a-day, became affected with a "rapidly growing swelling of the thyroid gland." See Brit. Jour. of Hom. No. xliv. We utterly deny these effects from the *use* of iodine. They are against all experience. That *during its use* such symptoms, and many others, have occured, is quite probable. "There are more false facts," as Cullen remarks, "than even false theories in medicine."

Even supposing that these remedies, quinine, iodine, and (from his relation of Dr. Steven's case,) lemon-juice, are homœopathic to the respective diseases in which they are given, which it is proved they are not; what, as they are always given in ordinary and sensible doses, not being curative when used billionthly, what, we would like to know, becomes of the solemn Hahnemannic law that, "It holds good and will continue to hold good as a homœopathic therapeutic maxim, not to be refuted by any experience in the world, that the best dose of the properly selected remedy is always the very smallest one in one of the high dynamisations ($\overline{X}$ or the 30th dilution,) as well for chronic as for acute diseases." (Organon, p. 289.) To which law, the Journal of Homœopathy for 1849, p. 452, states as the only exception, the administration of camphor-spirit in cholera.

As regards the "provings" Dr. Henderson observes that they are not, in reality, as numerous as they seem to be. Calcarea or chalk appears to produce 1090 symptoms. The real number is much less, probably not one fourth or one sixth. This is due to the fact that many of the symptoms are mentioned more than once, being split up, as it were, either by the peculiarities of the persons in whom they were produced, or by other causes, illness, &c.

Allowing 100 symptoms to each of their 200 *proved* drugs, gives them 20,000 symptoms. We ought to congratulate ourselves that legitimate medicine has not been so extravagant in this particular.

It is allowed that many of the symptoms enumerated are insignificant. "Hahnemann, more especially, committed atrocities of this kind, but it was an error, if error it was, on the safe side." As to the *moral* and *religious* symptoms and states produced, and consequently caused by certain medicines, as for instance, despair of eternal happiness, by pulsatilla; excessive scruples of conscience and despair of one's self and others, by gold; absence of all moral and religious feelings, by anacardium, &c.; he upholds them all, appealing to the experience of physicians, whether every kind of religious feeling may not depend upon mere bodily states. "How, then, can it be a matter of surprise to any man that medicines capable of disordering the body, the stomach as well as other organs, should also, and for that very reason, be capable of exciting or disordering the feelings of the mind? Does not alcohol do so? Do not opium, belladonna, hyoscyamus, 'hackisch,' and many more? And what medical man can deny that they do?"

This, though very plausible, is not at all pertinent to the matter. The dependence of the mind upon the body is not in question. Peculiar conditions of the mind, such, for instance, as absence of all religious feeling, and excessive scruples of conscience, exist, without question, *independently* of bodily disease. Yet, according to Jahr's Manual of Hom., lachesis causes and hence cures the former? and gold the latter. Shakspeare should have taught them better. When Macbeth, in reference to Lady Macbeth's condition, says to the Doctor, "Can'st thou not minister to a mind diseased"? &c., he is answered, "Therein the

patient must minister to himself." If we believe the homœopathists, however, her terror and despair, the whips and stings of an awakened conscience, might all have been allayed, nay more, effaced by a billionth of a grain of gold or pulsatilla.

In answer to Dr. Simpson's remark, that chalk (carbonate of lime) and common salt are found, the former in most of the vegetables and in almost every water used by man, and the latter in our food as a universal condiment, we have given us four or five pages of comment, which exhibit a most unpardonable ignorance of chemistry on the part of Dr. H. Carbonate of lime, and the remark equally applies to any other salt, whether prescribed homœopathically or taken in our water and food, must always meet with the same acid in the stomach and be alike affected by it. As to salt, (chloride of sodium,) it is found in all of the secretions, urine, sweat, tears, saliva, &c.; and it is perfectly preposterous to suppose that a billionth of it can act remedially, when we know that it is not only extensively used, but that a desire for it is instinctive in both man and beast.

The calculations, given us by Dr. Simpson, as to the real amount of medicinal matter existing in their infinitesimal doses, are sneered at but not disputed.

We have no desire to plume ourselves upon the victory gained by Dr. Simpson in this "battle of the books." Brilliant as are his adversary's talents, specious his arguments, no other result could have been expected. On the one side, legitimate medicine, with its accumulated stores of learning, based on physiology, pathology and therapeutics; on the other, a doctrine which abjures all past experience and all present science, and which taken in connexion with its practice is not only visionary and fantastic, but absolutely repulsive to common sense; a doctrine which, in the words of Dr. Forbes, "is at once false and bad, useless to the sufferer and degrading to the physician." Such in our belief is homœopathy.

There is great discrepancy of opinion regarding the character of Hahnemann. "It has often been questioned," observes Dr. Simpson, "whether Hahnemann, like the 'prophet' Joe Smith, used the talents bestowed on him only to dupe others, or whether he was enough of a visionary to believe in his own various incredible doctrines. The published evidence of one

who knew Hahnemann, Dr. Schubert of Dramburg, goes far to prove that the founder of homœopathy was himself far more knavish than foolish." "On one occasion," says Dr. Schubert, "he said to me, 'I give medicines but very seldom, although I always prescribe small powders. I do this for the sake of keeping up in the patient's mind the firm belief that each powder contains a particular dose of medicine. Most patients will get well by adopting a simple mode of living, and by placing a boundless confidence in their medical attendant. Ordinary practitioners know nothing of this, practically, although they are always talking of the healing powers of nature.'" (Casper's Wochenschrift for 1845.) His disciples, on the other hand, speak of his 'long and noble life;' of his being 'a monument of truth, of learning, and of greatness;' of the 'eye that dwelt so long and intensely on the light that appeared amidst the general gloom,' &c.

Notwithstanding Dr. Simpson's statements above given, we rather incline to the opinion that he was a visionary. His belief in dynamization by friction and shaking as a means of developing medicinal force; his ascription of most of "the ills that flesh is heir to," first to the use of coffee, afterwards to psora; his discovery of wonderful and unheard of qualities in the most simple and extensively used substances; his strong faith in his 30th dilution, superseded as he grew older by the conviction that *olfaction* of a dried decillionth was equally powerful; all these enforced with an enthusiasm and blind confidence in his own powers and a most arrogant contempt for the opinions of others, demonstrate this peculiar mental condition.

Nor are Schubert's statements, nor the fact that Hahnemann advocated very opposite opinions and modes of treatment at different periods of his life, at all at variance with this idea. In truth these contradictions and inconsistencies belong to and are needed to complete such a character.

The doctrine of similia similibus curantur, it is well known, did not originate with Hahnemann; it having been promulgated and occasionally applied by many writers previous to his time. In the treatise by Hippocrates, "On the Places in Man," published by the Sydenham Society, p. 77, we find the following: "He then insists in strong terms, that under certain circumstances, purgatives will bind the bowels, and astringents loosen them.

And he further makes the important remark, that, although the general rule of treatment be 'contraria contrariis curantur,' the opposite one holds good in some cases—namely, 'similia similibus curantur.'" In Sir John Floyer's History of cold bathing, a very curious old work, published in 1722, we have it also remarked to the same effect: "and why sometimes they gave water warm (he says) because they supposed the distemper to proceed from a cold cause, so proceeded according to the axiom, contraria contrariis, &c., which is not always orthodox, for very often similia similibus sanantur."

We may mention also that Dr. Armstrong's first case (see his Life by John Boott, M. D.) was one in which he applied this principle correctly. It was a case of diarrhœa, of two years continuance, which had resisted all the skill of his medical advisers. Conceiving, from the history of the case, that it was one of overloaded bowels, and that the diarrhœa was merely the effect of the irritation thus established, he advised a mild course of laxatives. This produced the desired effect, and the patient was entirely restored to health.

As a general, much less a universal law, it has never, however, been recognised by the profession; and even its occasional application to practice may be explained on other grounds, in almost every instance.

In Dr. Ware's admirable Discourses on Medical Education we find the following prophecy, with which we shall conclude our notice: "Other systems will pass away,—ours will be permanent; nourished, indeed, by the very elements which come from their decay, as the eternal oak flourishes and grows green for ages from the decomposition of the transient vegetation, of which generations are springing up, and perishing around it."

The Diseases of the Rectum. By Richard Quain, F. R. S., Professor of Clinical Surgery in University College; Surgeon to University College Hospital. London: Walton & Maberly.

This book is made up of a series of clinical lectures delivered by Mr. Quain at University College, London. It is written in a plain, unaffected style, and sets forth with clearness and pre-

cision the symptoms and treatment of the different diseases which are met with at the lower part of the rectum. The observations are all based upon cases which have been under the writer's own care. These cases are well drawn up and illustrate fully the diseases on which the author treats.

The author has not attempted a systematic arrangement, his "object being not the study of the natural history of disease, but the history of patients, their ailments and their cure, the classification of the subjects of these lectures—beyond the grouping together those that present obvious affinities—is unimportant." We consider this a great defect in the book. If by "natural history of disease" the author means the origin, nature and consequences of morbid processes (and he can mean nothing else,) nothing can be more hurtful to scientific surgery than the neglect of such a study. The phenomena of disease, if carefully collated with each other, lead us, as it were by the hand, to those palpable indications of treatment which are drawn not from the hallucinations of our fancy, but from the innermost penetralia of nature, (Sydenham.) This holds good equally in surgery as in medicine. It is just this knowledge that puts the well educated surgeon above the charlatan and empiric.

We regret to be obliged to say, that in our opinion, Mr. Quain has not done justice to Professor Syme, of Edinburgh. To that eminent surgeon the profession in Great Britain is chiefly indebted for bringing before them the observations of M. Ribes respecting the situation of the internal orifice of *fistula in ano*, and for pointing out the inutility of cutting beyond that point. He it was, also, who first combated the then prevalent opinion which referred the origin of fistula to ulceration of the mucous membrane of the bowel; to him we are indebted for describing the true nature of polypi, fissures of the anus and stricture; and for founding upon their "natural history," *i. e.* their pathology, a simple and effective treatment.* These things were surely known to Mr. Quain; why were they not duly credited? The omission is the more observable as Mr. Quain is by no means *costive* in referring to the "doings" of London and Dublin surgeons.

* See Diseases of the Rectum, 1838. This work has reached a 3d edition.

We have no space for anything like a critical analysis of the book. We can sincerely recommend it as an excellent practical guide on those diseases of which it treats, although it must be confessed, as far as we have been able to see, it presents but little that is novel either in diagnosis or treatment.

The Diseases of the Heart and the Aorta. By WILLIAM STOKES, Regius Professor of Physic in the University of Dublin, &c. Lindsay & Blakiston, Philadelphia.

We do not propose to enter upon any formal notice of the above work. Dr. Stokes' experience, abilities and character are so highly appreciated both in Europe and in our own country, as almost to place his writings beyond the pale of criticism. Few physicians have had such rare opportunities for observing disease, and we may safely assert that none have better profited by them. Entertaining these opinions, which we believe to be universal with the profession, we deem any criticism of his work unnecessary, and shall, therefore, merely state its scope and nature, which embodies the results of "clinical observations, continued almost unremittingly for upwards of a quarter of a century."

In the Preface, we are informed that the work "is not intended as a full treatise on cardiac pathology, nor yet on physical diagnosis, but it aims at the rational application of these branches of knowledge to practical medicine." "The diagnosis of the combination of diseases even in so small an organ as the heart is still to be worked out, and until this be done, the rules of physical diagnosis, founded on the presumed isolation of disease, must be used with great caution. I cannot, even at the risk of being charged with understating the position of physical investigation at the present day, avoid expressing my opinion that a too great positiveness marks some of the statements in our standard works, and that the difficulties of special diagnosis are still infinitely greater than many might be led to believe."

The same view is reiterated in the following remarks: "I desire also to enter a protest against the tendency, still too prevalent in many schools, which would base the diagnosis of disease in great part, if not entirely, on the consideration of purely physical signs, to the exclusion of that important class of phe-

nomena, which, for want of a better name, we are obliged still to call vital. For there is nothing more calculated than this to cause the neglect of that first and greatest lesson in medicine, which, while inculcating modesty and caution in diagnosis, makes us bring every possible light to bear on the case before us.

"As the student, fresh from the schools, and proud of his supposed superiority in the refinements of diagnosis, advances into the stern realities of practice, he will be taught greater modesty and a more wholesome caution; he will find, especially in chronic disease, that important changes may exist without corresponding physical signs,—that as disease advances, its original special evidences may disappear,—that the signs of a recent and trivial affection at one portion of the heart may altogether obscure or prevent those of a disease longer in standing and much more important,—that functional alteration may not only cause the signs of organic lesion to vary infinitely, but even to wholly disappear, —that the signs on which he has formed his opinions to-day may be wanting to-morrow,—and lastly, that to settle the simple question between the existence of functional and that of organic disease, will occasionally baffle the powers of even the most enlightened and experienced physician."

The book contains twelve chapters. In these are respectively considered, Inflammation of the Heart and its Membranes—Diseases of the Valves—of the Muscular Structures—Weakness, or deficient muscular power—Fatty degeneration—Treatment of the Organic Diseases of the Heart—of the Condition of the Heart in Typhus Fever—of Displacement—of Rupture—of Deranged Action—Aneurism of the Thoracic Aorta—of the Abdominal Aorta.

The following exhibits Dr. Stokes' practical character of mind:

"We should by no means underrate the importance of differential diagnosis in valvular disease; but the number of cases in which it is desirable to determine the exact seat and nature of the affection is comparatively small. Let us take the two most ordinary forms of this disease, namely, the insufficiency, with contraction on the one hand, and dilatation on the other, of the mitral and aortic valves. Certain rules of treatment are supposed applicable to each of these affections; but the truth is, that no constant state of the heart's muscles is attendant on them re-

spectively, and it is mainly on the vital and mechanical conditions of the cavities of the heart that we can found any rule of treatment."

"It will not be out of place to remark, that sudden death in disease of the heart is by no means so frequent as is generally supposed. In the majority of cases, death occurs in no sudden or extraordinary manner. It is principally in examples of solutions of continuity, such as the rupture of an aneurism, the laceration of the ventricles, or the breaking of the chordæ tendineæ, that this happens. We may add to this list a few cases of the fatty degeneration of the heart in which, without rupture, death takes place by a sudden syncope or a congestive apoplexy. But these are the exceptions, and in the greater proportion sufficient notice is given of the approach of death by long-continued symptoms of dropsy, and of pulmonary and hepatic disease."

Each affection of the heart is illustrated with appropriate cases, in which besides its physical signs, we have given us the general symptoms and complication of the disease. These cases are perfect models in their way, both as regards the manner in which they are drawn up, and the clear and happy style in which they are written. Few writers possess Dr. Stokes' ability of clear expression and illustration, undeformed by either prolixity or too great conciseness. All must acknowledge that there is no jewel which may not be either greatly marred or enhanced in beauty by its setting.

We most heartily commend the work to the perusal of our readers.

THE MEDICAL EXAMINER.

PHILADELPHIA, MARCH, 1854.

MEDICAL NEWS.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.—At a meeting of the College, held February 1st, 1854, the following delegates were elected to the American Medical Association: Drs. F. G. Smith, J. D. Griscom, C. D. Meigs, John Neill, James M. Greene, S. L. Hollingsworth, J. B. Biddle, Lewis Rodman, G. B. Wood, Samuel Lewis, Robt. Bridges, Isaac Hays.

PHILADELPHIA COUNTY MEDICAL SOCIETY.—At a meeting of this Society, held January 18th, 1854, the following delegates to the American Medical Association, and to the State Medical Society were elected, viz.:

To the American Medical Association.—Drs. William Ashmead, Thomas F. Betton, Charles H. Bibighaus, Benjamin H. Coates, Levi Curtis, G. Emerson, Edward Hallowell, Edward Hartshorne, S. C. Huston, Nathan L. Hatfield, Alexander C. Hart, Wilson Jewell, Alfred L. Kennedy, William H. Klapp, John F. Lamb, Renè La Roche, Samuel Lewis, J. H. B. McLellan, W. S. W. Ruschenberger, Isaac Remington, R. H. Townsend, J. S. Zorns.

To the State Medical Society:—Drs. William Ashmead, T. E. Beesley, Thomas F. Betton, Charles H. Bibighaus, Benjamin H. Coates, D. Francis Condie, Isaac Comly, G. Emerson, James V. Emlen, George Fox, David Gilbert, Edward Hallowell, Isaac Hays, Henry Hartshorne, Nathan L. Hatfield, A. Helffenstein, Jacob Huckel, John H. Ingham, Samuel Jackson, Prof. Samuel Jackson, Drs. Benjamin S. Janney, Wilson Jewell, Alfred L. Kennedy, Joseph Klapp, William H. Klapp, S. Littell, Samuel Lewis, E. F. Leake, J. H. B. McLellan, George W. Norris, William B. Page, John M. Pugh, Isaac Remington, Lewis Rodman, W. S. W. Ruschenberger, Moses B. Smith, Robert P. Thomas, John F. Trenchard, Francis West, Caspar Wister, George B. Wood, Joshua H. Worthington, Thomas H. Yardley, Jacob S. Zorns.

Published by order, ROBERT P. THOMAS.
Assistant Secretary.

The New Orleans Med. and Surg. Journal reports the following death from chloroform: A young female, whose great toe was about to be amputated by one of the visiting surgeons of the Charity Hospital, suddenly expired while under the influence of chloroform. It was some time before she could be brought fully under the effects of the anæsthetic; she finally, however, became completely insensible, and before the operation was concluded, she sank and rapidly expired in spite of the most strenuous and judicious efforts of several medical men present. The usual precautions were used in its administration, and no censure can justly be attached to the surgeon or his assistants for the untimely result of the case. A post-mortem was made by the Professor of Physiology in the University of Louisiana, and all the organs were found to be perfectly healthy.

Only one case of cholera was reported in London, during the week ending January 21st.

The Stethoscope, formerly edited by P. C. Gooch, M. D., has been purchased by the State Medical Society of Virginia. Its present editors are Drs. T. P. Atkinson, R. W. Haxall, J. Bolton, R. A. Lewis, A. T. B. Merritt and J. G. Cabell.

Dr. Joseph Parrish, the able editor of the New Jersey Medical Reporter for the last six years, has vacated his post in favor of S. W. Butler, M. D. Dr. P. will hereafter reside in Philadelphia. The Bibliographical department of the Reporter will be under the supervision of H. S. Patterson, M. D., of Philadelphia.

The catalogue of the Jefferson College gives 627 as the number of its students.

Obituary.—Dr. Lewis W. Chamberlayne, Professor of Materia Medica and Therapeutics, died in Richmond, Va., on the 28th of Jan., 1854.

GENERAL ORDER.

Navy Department, February 1, 1854.

1. Hereafter a Board of Surgeons in the Navy, shall assemble annually at such place as may be designated by the Department, about the close of the lecture seasons of the Colleges, for the examination and selection of candidates for admission into the Medical Corps of the Navy, and the examination of Assistant Surgeons who may be candidates for promotion.

2. The Board will select from the qualified candidates for admission, such a number of the best as may be necessary to meet the demands of the service for the following year.

3. As vacancies occur in the Medical Corps of the Navy, appointments will be made from the qualified candidates in the order of succession in which they may be named by the Board; but no appointment will be given to any such candidate who is over twenty-five years of age.

4. No qualified candidates will be held over for appointment after one year, but all such must be re-examined and take position in the class in which they are last examined.

5. Every candidate for admission will be examined, strictly and carefully, as to his physical capacity for the service, and the Board will make a separate report in each case, which will be forwarded *direct* to the Department, to be placed on file with the testimonials of the candidate.—This examination will precede that as to professional qualifications, and no candidate who is not physically qualified will be examined professionally.

6. In order that the relative position of Assistant Surgeons of the same date, who shall be examined for promotion at different times, may be more readily determined, a majority of the members of the Board will be selected, if practicable, from those who served on the next preceding Board.

7. Assistant Surgeons, who are candidates for promotion, shall present to the Board testimonials of correct deportment and habits of industry from the Surgeons with whom they have been associated on duty; also, a Journal of Practice, or Case Book, in their own hand-writing.—They are expected to be familiar with all the details of duty specified in the "Instructions for the government of Medical Officers."

J. C. Dobbin, Secretary of the Navy.

A Board of Naval Surgeons will assemble at the Naval Asylum, Philadelphia, on Monday, March 6th, 1854, for the examination of candidates for promotion, as well as for admission into the Medical staff of the Navy.

The Board will consist of Surgeon Thomas Dillard, President; James M. Greene, W. S. W. Ruschenberger, Members; and Passed Assistant Surgeon, A. A. Henderson, Recorder.

RECORD OF MEDICAL SCIENCE.

Mild Treatment of Scarlatina. By JOSEPH MILLER, M. D., *of Missouri.* —An epidemic of Scarlatina variable in intensity has prevailed during the latter part of autumn and beginning of winter, throughout the counties bordering on the Missouri River, from St. Louis to Council Bluffs It has presented in the same localities, the simple, anginose and malignant varieties, but with less tendency to recession of the eruption and local complications than usually attends the disease. It is not with the intention of presenting anything new upon this interesting subject, that I send you this very brief communication, but merely to add my testimony and experience to those former observations which encourage a mild and simple course of medication in the disease. It is very certain, that fewer fatal cases have fallen under my notice during the past year, than for twenty-five years previous, and yet the disease has exhibited, in a majority of cases its usual intensity and persistence. I attribute this, not to anything in its nature or pathology, from what is usually observed, but to the fact, that a milder treatment has been gaining favor with the profession in my range of observation. I do not wish to find fault, or avow any peculiar skill in the treatment of disease, but I believe half the mortality of scarlet fever as reported from some localities, has been owing to the severe antiphlogistic treatment pursued. Scarlatina is a specific disease, and as such, besides other peculiarities, has a definite course to run. The rise, progress and decline are strictly defined by certain conditions of the system. It is not anything peculiar to this disease that excites the tendency to complications and sequela, which prove so obstinate and dangerous. All diseases which deprave the blood manifest the same tendency. It is when the culmination and decline of the disease is interrupted and turned from the ordinary course, that these frightful accidents supervene. There is a harmony in the various operations by which morbid impressions are opposed and finally extruded from the economy, as well as in the physiological combinations; and it is reasonable to suppose that this harmony adapts itself to the various ends to be accomplished. For example in many diseases (Scarlatina for one) the great burden of elimination is thrown upon the kidneys. The act of depuration in this case is a healthy one and calculated to restore health to the system; interrupt it by a strong impression of medicine on distant but correlative organs, or depress the entire organism by undue depletion, and you at once close the principal exit of these diseases from the blood, and retained in the system, it first manifests its evil effects upon the organs where a plus of vitality was instituted for good purposes, and then spreads to other parts.

There are other explanations, but it is well in such investigations to separate true pathology and facts, from hypothesis and probabilities, and to this we contribute by associating, as far as po pathological conditions with the known effects of therapeutic ag ts and our practical observation.

Entertaining these views, I have been led to reject those remedies in scarlet fever, which by depressing the energies of the frame, or in causing the depravation of the blood, or setting up a revulsion, or counter-irritant action on different parts, arrest or divert the efforts at elimination. When disease invades the frame, there are but two ways to get rid of it: 1st, to neutralize it in the body; 2d, to drive it out through the various emunctories. The first cannot be done in scarlet fever. It therefore becomes necessary to aid the process of elimination by such gentle means as will not excite in the secernent organs engaged, too much local hyperemia. For this purpose, I employ, in every variety of scarlatina, simple, anginose or malignant, the mildest diuretics and diaphoretics; such as Cream of Tartar, Spirits of Nitre, Chlorate of Potash, &c. It is no contradiction to these views to employ tonics or stimulants in the severe examples of the malignant disease, for we thereby inspire a necessary energy in the depurative organs, which other means, unaided, would fail to excite.

This course, with such attention to the skin, temperature, and diet, as every physician's experience will suggest, constitutes our treatment of scarlet fever, and our observation enables us to recommend it to the profession.— *West. Medico-Chirurgical Journal.*

Tetanus caused by the administration of a powerful dose of arnica. By Dr. Leopold Turck.—Indigneous medicinal plants to which our attention has been called in your excellent journal, would receive much more of our favor and be much more useful were they gathered with more judgment and care. Those which merely furnish leaves and roots are picked indiscriminately in spring, summer or autumn, though experiences teaches us that the qualities of plants vary remarkably according to the different stages of their vegetation; nor is any regard paid to the country whence these plants are derived, though climate is known to exercise the greatest influence upon the quality of their roots, flowers and plants. This influence is so great indeed, that the same plant may become edible in one, which was poisonous in another; an highly aromatic plant from the South, be but slightly fragrant in the North; but to return to our subject.

Meline (Louis) des Granges de Plombieres, aged 28 years, large and powerful, and of excellent health, carried, on the 21st July, 1849, so heavy a load, as to occasion pains in the back and oppression, unaccompanied, however, with spitting of blood. His mother gave him to drink a strong infusion of arnica. It appears that she had put a large handful of the flowers, recently gathered, of this plant, into a pint of boiling water. Soon afterwards Meline experienced a general agitation, which increased to such an extent, that the fourth day a general tetanus set in. His wife and he attributed all these syptoms to the strong infusion he had drunk seven days previously. By the aid of inhalation of chloroform, I caused the tetanus to cease momentarily, and my patient from this time experienced no further suffering. The symptoms disappeared the first time of its exhibition, for two hours; the second time, for an hour

only; the last time, for hardly half an hour. Meline died on the 1st of August. He was not opened. There was no external indication of any injury; if he had any, very certainly the violent action of the arnica had exerted upon it a baneful influence, such, in short, as the patient himself attributed to it.

I have known arnica, taken in large doses by a young girl for improper purposes, produce very violent abdnominal pains, simulating peritonitis, and complicated with a general nervous agitation. In this instance I was enabled to save both mother and child.

Dr. Grillott, one of our colleagues, has seen vertigo so severe, for several hours, as to prevent the patient from either sitting or standing, produced by an over-dose of arnica.—*Revue de Therapeutique.*

Means of removing the Rancidity of Butter.—Wild recommends that the butter should be kneaded with fresh milk and then with pure water. He states that by his treatment the butter is rendered as fresh and pure in flavor as when recently made. He ascribes this result to the fact that butyric acid, to which the rancid odor and taste are owing, is readily soluble in fresh milk, and is thus removed.—*Pharm. Journal.*

Some Important Facts regarding Cholera. By JOHN FURLONGE, M. D. *Antigua.*—The following facts are so interesting that I hasten to forward them for insertion in your widely-circulated journal. The ship *Glenmenna*, from Liverpool, bound to New Orleans, with 500 emigrants, put into the Port of Charleston, Nevis, for medicines and provisions. She had lost between twenty and thirty emigrants from cholera since she left England, and had then between twenty and thirty lying ill with the disease. The authorities at Nevis prohibited communication with the shore, and the President sent his secretary alongside, who boarded her, to warn the captain to that effect. The ship was supplied, however, with what she wanted. She lay at anchor very near to the shore, and remained *sixteen* hours, and was reported by the persons who went to her as very dirty, and disgustingly and intolerably offensive. The ship arrived on the 22d of November, and on the 4th of December (twelve days after) malignant cholera of a terribly fatal nature broke out at Charleston. Amongst the first who suffered was the secretary, who went on board; he recovered. The first five cases, a father and four children, all died, and in fourteen days it swept off upwards of 100, ten being the average daily mortality. On Sunday last, the 18th instant, thirty are reported to have died, and on the next day twenty-eight.—We here, at Antigua, are very much alarmed, as Nevis is about fifty miles west, and the wind for some time had prevailed from that quarter. The profession here are almost to a man non-contagionists, but this "blow" has, in some degree, shaken our doctrine, and the Board of Health has ordered strict quarantine between the islands. This outbreak at Nevis—one of the healthiest West India islands, isolated, and which escaped yellow fever, so lately prevalent in the neighboring colonies—would almost seem to settle the question of contagion, and to afford a

kind of *experimentum crucis* on the subject. We are doing in Antigua all we can to avert the pest from our shores, so far as sanitary measures can be effectual. I may mention that it is reported that several of the ship's men got on shore at Nevis, and became very drunk; but this requires authentication.* The disease is reported to have attacked chiefly the poorer classes, and the persons about butchers' shambles are said to have suffered much, and all filthy localities. The town is represented as in a very bad condition as regards sanitary requirements, and the sea-shore (the town is close to it) is made the receptacle for *all* the filth, domestic and otherwise, and is intolerably disgusting.—*The Lancet.*

St. John's, Antigua, December, 1853.

Case of Phthisis, with Pneumothorax and Empyema, in an Infant, aged Seven Months. By W. F. CLEVELAND, Esq.—On the 15th of February, 1853, W. J. M., a delicate and strumous-looking child, aged 5 months, was brought to my house, suffering from cough and slight dyspnœa,—symptoms which, his mother stated, he had had, in a greater or less degree, ever since he was a week old.

His father had been under my care, and died, about a month previously, of advanced phthisis.

A mixture, containing ipecacuanha, squills, and syrup of poppies, was prescribed; and, as he soon became better, I saw no more of him, until the 9th of March, when he was greatly distressed, and appeared to be suffering from some abdominal uneasiness, as there were continued efforts of straining or tenesmus.

A carminative mixture, to be followed by a dose of castor-oil, was given, and on the following day he was relieved.

In the course of a few days, however, the cough became more troublesome, and was attended with marked dyspnœa. He now seemed to be in great pain, and was constantly crying, so that, although more than one attempt was made to learn the state of the chest by a physical examination, no satisfactory conclusion could be arrived at.

He continued to grow weaker, and suffer greatly from the cough, want of sleep, night-sweats, etc., until the 7th of April, when it was thought he was fast sinking; but, contrary to expectation, he rallied, and for some days was better than usual.

On the 6th of May, there was great aggravation of all the symptoms; he had passed a very restless night, and once or twice his mother thought he would have been suffcated. During my visit in the course of the day, a paroxysm of coughing came on; he made a few convulsive efforts to expectorate, and death almost immediately followed.

With the assistance of my friend, Mr. Burford, I examined the body, twenty-one hours after death.

*I have since heard that this is true, and that five dead bodies were thrown overboard in the roadstead, and it was at first believed that the illness arose from eating fish which had preyed on the bodies. The people will not touch fish.

There was no remarkable emaciation. On removing the sternum, the right pleural cavity presented the fallacious appearance of a large vomica, being about one-third full, and containing about four ounces of slightly fetid, thick, greenish pus. The walls of this cavity were thick, and lined here and there with flakes of effused fibrin.

At about the junction of the middle with the lower third of the sac, towards the vertebral column, was an elliptical opening, about the size of a small horse-bean, through which a probe could be readily passed, in an upward and backward direction, into a large bronchial tube. Under the margin, which was smooth and rounded, of this pleural opening was an excavation in the lung, as large as a common filbert. The lung itself was condensed, and lay on the spine.

On a more careful examination, crude tubercles were found scattered throughout it, and, in the cavity above mentioned, as also in the bronchial tube, there was purulent matter similar to that found in the pleural sac.

The left lung contained tubercles, but none of them could be said to have decidedly softened. The heart and other organs were healthy.

One of the most interesting questions connected with the foregoing case, but one, it must be admitted, that cannot now be satisfactorily determined, is, whether the aperture was caused by the pointing of an empyema into the lung, or the extension of a vomica into the pleura. Still, setting aside the fact, that, in the large proportion of recorded cases of pneumothorax the latter state obtains, there is strong presumptive evidence that this child was also first affected with phthisis, and that the empyema was secondary, or consequent on the bursting of the vomica into the pleural cavity. Nor does experience prove that the circumstance of the non-softening of tubercles in other parts of the lungs should be allowed to invalidate this conclusion.

We observe, then, a remarkable hereditary predisposition to phthisis, as shown in the death of the father, in an advanced stage of that disease, when the child is only four months old. There is also the history of a cough, with shortness of breath (indicating the existence of tubercles,) commencing a week after birth.

Then, after these symptoms have continued nearly six months, suddenly arise what were at the time, supposed to be obscure indications of abdominal uneasiness, but which are now explicable, as referring to the ordinary constitutional distress, including the hurried respiration, etc., produced by pneumothorax. A few days after this event, aggravation of cough, increased dyspnœa, with signs of pain, announce the development of pleuritis with effusion.

The subsequent progress, with the exception of but a short interval, is that of increasing debility, hectic, cough with expectoration, etc., until death somewhat suddenly takes place from suffocation following the ineffectual efforts to expectorate, in all probability, some of the viscid, purulent matter that had escaped from the pleural cavity.

I will only remark further, that had the empyema opened into the lung, it could scarcely have failed to be known at the time by the expec-

toration of some of its contents, and that the existence of a tubercular cavity immediately under the surface of the pleura, as was here found after death, when taken in conjunction with the progress of the case during life, is an argument in favor of the theory I have endeavored to substantiate.—*London Medical Times and Gazette.*

Abstract of Meteorological Observations for January, 1854, *made at Philadelphia, Pa. By* Prof. James A. Kirkpatrick.

1854. Jan.	Barometer. Corrected for Temperature. Daily Mean.	Daily Range.	Thermometer. Fahrenheit. Mean.	Range	Dew point. 2 P. M.	Prevailing Winds.	General Remarks. Means made from the three Observations, viz: 7 A.M., 2 P.M., & 9 P.M.
	Inches.	Inch.	deg.	deg.	deg.	Points.	
1	29.769	.078	28.8	5	30.0	S.W.	Morn. cloudy, aft. and ev. clear.
2	30.126	.317	24.0	8	25.0	S.W.	do. do. do.
3	30.217	.162	25.3	20	27.3	(Var.)	M. and aft. cloudy, ev. clear.
4	30.059	.047	38.2	15	36.0	S.W.	Clear.
5	30.001	.058	39.3	14	36.0	S. W.	Cloudy. *Rain* 7 P.M. commenced.
6	29.902	.245	40.0	14	36.7	N.W.	do. do. stopped at 11 P.M.
7	30.143	.195	27.5	6	27.8	W.	do.
8	29.869	.094	26.8	5	26.7	N. W.	M. and aft. cloudy, ev. clear.
9	30.083	.113	24.0	9½	27.0	(Var.)	Cloudy.
10	30.040	.125	34.7	18	26.0	S.W.	do.
11	29.987	.205	37.3	10	34.3	N.E.	do. *R.* 9 to 11 & 6½ P.M. all night
12	29.462	.160	55.0	19	58.0	(Var.)	M. & af. cl'dy, ev. clear; *R* until 7
13	29.559	.081	45.0	12	40.7	S.W.	Cloudy, [P.M. strong wind.
14	29.939	.225	29.3	14	29.3	W.	M. clear, aft. and ev. cloudy.
15	30.164	.048	31.3	11	35.0	S.W.	do. do.
16	29.895	.128	45.3	18	44.0	S.W.	Cloudy, 10 P.M. *R.* cont. all night.
17	30.019	.273	40.0	5	37.7	N.W.	do. *R.* till 10 A.M., then *Sn.* & *R.* till 11½ A.M.
18	30.099	.090	33.0	3	30.7	N.E.	do. *S.* 10 A.M. to 3 P.M. & 5 to 6 P.M.
19	30.151	.127	32.3	8	30.3	N.W.	do. 7 P.M. *Sn. Sl. R.* stop. dur. n'gt.
20	29.656	.300	38.3	10	35.7	(Var.)	do. 12 M. fog aft. & ev. *R.* at night.
21	29.640	.511	43.0	32	31.0	(Var.)	M. and aft. cloudy, ev. clear.
22	30.303	.078	22.3	9	25.0	W.	Clear.
23	30.267	.292	20.5	9	21.0	W.	do. 9 A. M. *Snow* about 10 min.
24	30.212	.225	24.3	19½	31.0	S.W.	do.
25	30.402	.061	24.7	12	28.0	E.N.E.	do. M. & aft. ev. cl'y; *Sn.* 8½ to
26	29.821	.150	43.0	22	43.7	S.W.	Cloudy. [9½ P.M.
27	29.788	.136	35.8	10	27.0	W.	Morn. and aft. cloudy, ev. clear.
28	30.292	.185	21.8	6	24.0	N.W.	do. do. do.
29	30.430	.070	22.0	10	25.0	N.E.	Cloudy.
30	30.181	.255	30.3	10	30.7	N.E.	Morn. and aft. cloudy, ev. clear.
31	29.733	.247	36.7	11	26.0	S.W.	do. do. do.
Monthly Mean	30.008		32.89		31.82	SW. NW. W.	Rain and melted snow during the month 2.32 inches.
High.	30.471 on 29th		58° on 12th.		58° on 12th.		
Low.	29.384 on 12th		11½° on 24th		21° on 23d.		
range.	1.087 inch.		46½°		37°		